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CONFERENCE OF THE PARTIES
Committee on Science and Technology
Fourth session
Bonn, 12-14 December 2000
Item 3 of the provisional agenda

ADOPTION OF THE AGENDA AND ORGANIZATION OF WORK

Provisional agenda and annotations

Note by the secretariat

CONTENTS

		Paragraphs	Page
I.	PROVISIONAL AGENDA	1	2
II.	ANNOTATIONS TO THE PROVISIONAL AGENDA	2 - 25	2

Annexes

I.	List of documents prepared for the third and fourth sessions of the Committee on Science and Technology	8
II.	Tentative schedule of work for the fourth session of the Committee on Science and Technology	10

I. PROVISIONAL AGENDA

1. The provisional agenda presented for adoption is as follows:

1. Opening of the session.

2. Election of Vice-Chairpersons.

3. Adoption of the agenda and organization of work.

4. Synthesis of scientific and technical information, particularly with regard to the benchmarks and indicators used to measure progress, and an assessment thereof, contained in the reports received from country Parties for consideration by the Committee on Science and Technology.

5. Survey and evaluation of existing networks, institutions, agencies and bodies.

6. Traditional knowledge.

7. Early warning systems.

8. Future work programme of the Committee.

9. Roster of independent experts.

10. Establishment, if necessary, of an ad hoc panel or panels.

11. Other matters.

12. Report on the session.

II. ANNOTATIONS TO THE PROVISIONAL AGENDA

Introduction

2. In accordance with paragraph 7 of the terms of reference of the Committee on Science and Technology (decision 15/COP.1), the Committee shall adopt a programme of work, which should include estimates regarding its financial implications. The programme of work shall be subject to approval by the Conference of the Parties.

Venue

3. Article 24, paragraph 1 of the Convention to Combat Desertification provides that the Committee on Science and Technology shall meet in conjunction with the ordinary sessions of the Conference of the Parties. The fourth session of the Committee will therefore meet at the

Bundeshaus, Bonn, during the fourth session of the Conference of the Parties. Tentatively, the Committee has been scheduled to meet from 12 to 14 December 2000, with a possible extension to 15 December 2000.

Participants

4. Article 24, paragraph 1, of the Convention provides that the Committee shall be multidisciplinary and open to the participation of all Parties. Consistent with the provisions of article 22, paragraph 7, it is anticipated that sessions of the Committee will also be open to observers in accordance with the rules of procedure.

Documentation

5. Lists of the documents prepared for the Committee's third and fourth sessions are contained in annex I. In addition to normal distribution, documents will be made available on the secretariat's Web site: http://www.unccd.int.

1. Opening of the session

6. In accordance with rule 22 of the rules of procedure of the Conference of the Parties (decision 1/COP.1, as amended by decision 20/COP.2), the Chairperson of the Committee shall be elected by the Conference from among the representatives of the Parties present at the session, in such a manner that every geographical region is fairly represented. This will occur at the opening meeting of the Conference on 11 December 2000. The fourth session of the Committee will then be opened on 12 December by the Chairperson of the Committee.

2. Election of Vice-Chairpersons

7. In accordance with paragraph 6 of the terms of reference of the Committee, the Committee shall elect its own Vice-Chairpersons, one of whom shall act as Rapporteur. Paragraph 6 of the terms of reference provides: "The Chairperson and the Vice-Chairpersons shall be elected with due regard to the need to ensure equitable geographical distribution and adequate representation of affected country Parties, particularly those in Africa, and shall not serve for more than two consecutive terms."

3. Adoption of the agenda and organization of work

8. The Committee will have before it for adoption the provisional agenda contained in paragraph 1 above, prepared by the secretariat on the basis of decision 16/COP.3. A tentative schedule of work is to be found in annex II.

New recommendations

9. Provision has been made in the Committee's schedule of work for the drafting of a report following discussion of the work of the Committee during the morning of

Thursday 14 December 2000, and for approving it in the afternoon of the same day. Any new recommendations could also be dealt with at the plenary meeting of the Conference on 15 December 2000.

4. Synthesis of scientific and technical information, particularly with regard to the benchmarks and indicators used to measure progress, and an assessment thereof, contained in the reports received from country Parties for consideration by the Committee on Science and Technology

10. By decision 16/COP.2, the Conference endorsed the methodological framework for impact indicators proposed by the ad hoc panel and contained in documents ICCD/COP(2)/CST/3 and ICCD/COP(2)/CST/3/Add.1. By decisions 22/COP.1, 16/COP.2 and 11/COP.3, Governments had been requested by the Conference to initiate testing of impact indicators and to report on the practicality of using those indicators in national reporting to the Conference at its third session. Reports by Parties, together with advice and information provided by the Committee and the global mechanism consistent with their respective mandates, shall constitute the basis of the review of implementation by the Conference (decision 11/COP.1). The secretariat has prepared document ICCD/COP(4)/CST/5 to facilitate consideration of the national reports of country Parties. The relevant information may thus be found in the national reports of the country Parties contained in documents ICCD/COP(3)/5/Add.2 and ICCD/COP(4)/4/Add.1-4.

5. Survey and evaluation of existing networks, institutions, agencies and bodies

11. By decision 13/COP.3, the Conference noted the contractual arrangements entered into by the Executive Secretary with the United Nations Environment Programme (UNEP) on its behalf for the completion of phase one of the work on the survey and evaluation of existing networks, institutions, agencies and bodies.

12. By the same decision, the Conference, taking note of the interim report on phase one of the survey and evaluation, submitted by UNEP on behalf of its consortium of partners undertaking that phase, and recognizing the efforts made by UNEP and members of its consortium, decided:

(a) To support the realization of a second phase that would focus on the southern Africa subregion;

(b) To request the secretariat to draft the terms of reference for phase two of the survey and evaluation, based on the phase one report and the discussions in the Committee on Science and Technology, as well as possible further inputs from Parties on their expectations of phase two, to be sent to the secretariat no later than 31 December 1999;

(c) To request UNEP to submit an update to the above report on phase one, based on the discussions of the Committee on Science and Technology at its third session and written comments to be sent by the Parties no later than 31 December 1999 through the secretariat;

(d) To request the Bureau of the Committee on Science and Technology, at its inter-sessional meeting, and after satisfactory consultation with the regional groups, to approve the terms of reference for phase two of the survey prepared by the secretariat;

(e) To authorize the secretariat to initiate the open tendering process for contractors to implement phase two of the survey and evaluation, and subsequently to enter into a contractual arrangement with the successful bidder.

13. Document ICCD/COP(3)/CST/4 will be submitted to the Committee for review and any guidance that the Committee wishes to recommend to the Conference. The Committee will also be invited to give recommendations on the methodology to be followed for phases two and three of this work and on the region and subregions where phase two will be implemented.

6. Traditional knowledge

14. By decision 12/COP.3, the Conference appointed an ad hoc panel on traditional knowledge composed of 10 experts to develop further appropriate criteria in line with future work on benchmarks and indicators, to be used by national focal points so as:

(a) To measure the reciprocity between traditional and modern knowledge and/or promote it;

(b) To assess how networks and mechanisms created by the secretariat (regional networks, regional coordinating bodies, national focal points) are incorporating traditional and local knowledge in their work programmes;

(c) To assess the socio-economic and ecological benefits of traditional knowledge in the light of environmental changes.

15. The ad hoc panel on traditional knowledge composed of 10 experts met in Matera, Italy, from 8 to 12 May 2000. Its report (ICCD/COP(4)/CST/2) will be submitted to the Committee for review and for the adoption of any appropriate recommendations to the Conference.

7. Early warning systems

16. By decision 14/COP.3, the Conference of the Parties appointed an ad hoc panel composed of 10 experts with the following terms of reference: relating to early warning systems, to review and elaborate on the following technical topics emerging from national reports of Parties and regional forums on implementation of the Convention:

(a) Data collection, accessibility and integration;

(b) Evaluation and prediction of drought and desertification, and measures for preparedness, in cooperation with the follow-up to the International Decade for Natural Disaster Reduction;

(c) Dissemination of information to end-users on the applications of early warning systems and desertification monitoring and assessment, and strengthening of appropriate response mechanisms, particularly in the national action programmes to combat desertification.

17. By the same decision, the Conference invited the relevant institutions which have operational responsibilities in areas related to desertification and drought and information systems drawn from each thematic programme network in various regions to provide experts and/or reference materials in order to support the ad hoc panel.

18. By the same decision, the Conference also requested the secretariat to make the necessary arrangements to facilitate the functioning of the ad hoc panel.

19. The ad hoc panel composed of 10 experts met with experts from the relevant institutions which have operational responsibilities in areas related to desertification and drought and information systems drawn from each thematic programme network in various regions. This meeting took place in Bonn, Germany, from 31 May to 3 June 2000.

20. The report of the ad hoc panel (ICCD/COP(4)/CST/4) will be submitted to the Committee. The Committee will be invited to consider that report, adopt any appropriate recommendations to the Conference and consider the panel's reappointment.

8. Future work programme of the Committee

21. The Committee may wish to consider what recommendation to give to the Conference with respect to the future work programme of the Committee, and may also wish to make recommendations to enhance the effectiveness of the Committee in carrying out its responsibilities outlined in its terms of reference during the inter-sessional period.

9. Roster of independent experts

22. Under the provisions of article 24, paragraph 2 of the Convention, the Conference is to establish and maintain a roster of independent experts with expertise and experience in the relevant fields. Consistent with decision 15/COP.3, the secretariat has maintained the roster, and its updated form is contained in document ICCD/COP(4)/6 and Add.1. The Committee may wish to review the roster, and make recommendations to the Conference regarding its composition and any guidance the Conference may wish to give to the secretariat as to its appropriate format.

10. Establishment, if necessary, of an ad hoc panel or panels

23. Under the provisions of article 24, paragraph 3, of the Convention, the Conference may, as necessary, appoint ad hoc panels to provide it, through the Committee, with information and advice on specific issues regarding the state of the art in relevant fields of science and technology. The Committee may wish to consider recommending to the Conference the establishment of any ad hoc panels which may be required, including the reappointment of the panel on early warning systems referred to in paragraph 20 above.

11. Other matters

24. The Committee may wish to consider recommending to the Conference whether and how any other inter-sessional work in the domain of science and technology should be undertaken.

12. Report on the session

25. A draft report on the session will be prepared for adoption at the final meeting on the understanding that it will be completed after the session, with the assistance of the secretariat and under the guidance of the Chairperson.

Annex I

LIST OF DOCUMENTS PREPARED FOR THE THIRD AND FOURTH SESSIONS OF THE COMMITTEE ON SCIENCE AND TECHNOLOGY

Fourth session

ICCD/COP(4)/CST/1	Provisional agenda and annotations
ICCD/COP(4)/CST/2	Report by the ad hoc panel on traditional knowledge
ICCD/COP(4)/CST/3	Survey and evaluation of existing networks, institutions, agencies and bodies
ICCD/COP(4)/CST/3/Add.1	Survey and evaluation of existing networks, institutions, agencies and bodies for phase two (submitted by UNEP)
ICCD/COP(4)/CST/4	Report by the ad hoc panel on early warning systems
ICCD/COP(4)/CST/5	Synthesis of scientific and technical information, particularly with regard to the benchmarks and indicators used to measure progress, and an assessment thereof, contained in the reports received from country Parties for consideration by the Committee on Science and Technology
ICCD/COP(4)/5	Roster of independent experts
ICCD/COP(4)/5/Add.1	Roster of independent experts - Addendum

Third session

ICCD/COP(3)/CST/1	Provisional agenda and annotations
ICCD/COP(3)/CST/2	Synthesis of important and widely applied traditional knowledge on a subregional and regional basis and on a national scale
ICCD/COP(3)/CST/3	Report by the ad hoc panel on traditional knowledge
ICCD/COP(3)/CST/3/Add.1	Linkage of the work of the Convention on traditional knowledge with that of related conventions
ICCD/COP(3)/CST/3/Add.2	Synthesis of traditional knowledge on dry-land ecosystems

ICCD/COP(3)/CST/4	Survey and evaluation of existing networks, institutions, agencies and bodies
CCD/COP(3)/CST/5	Other bodies performing work similar to that envisaged for the Committee: potential area of cooperation between the Convention and other bodies
ICCD/COP(3)/CST/6	Report on existing experiences and specialized institutions in early warning systems

Annex II

TENTATIVE SCHEDULE OF WORK FOR THE FOURTH SESSION OF THE COMMITTEE ON SCIENCE AND TECHNOLOGY

Tuesday 12 December 2000	
10 a.m.-1 p.m.	**3 p.m.-6 p.m.**
- Organization of work (ICCD/COP(4)/CST/1) - Establishment of a roster of experts (ICCD/COP(4)/5 and Add.1) - Survey and evaluation of networks (ICCD/COP(4)/CST/3 and Add.1)	- Synthesis of scientific and technical information, particularly with regard to benchmarks and indicators, contained in the reports received from country Parties for consideration by the Committee (ICCD/COP(4)/CST/5) and documents ICCD/COP(3)/5/Add.2 and ICCD/COP(3)/3/Add.1-4
Wednesday 13 December 2000	
10 a.m.-1 p.m.	**3 p.m.-6 p.m.**
- Traditional knowledge (ICCD/COP(4)/CST/2)	- Early warning systems (ICCD/COP(4)/CST/4)
Thursday 14 December 2000	
10 a.m.-1 p.m.	**3 p.m.-6 p.m.**
- Establishment of ad hoc panel(s) - Drafting of the report to the Conference of the Parties	- Programme of work for the Committee - Adoption of recommendations to the Conference of the Parties
Friday 15 December 2000	
10 a.m.-1 p.m.	3 p.m.-6 p.m.
To be determined	-

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Convention to Combat Desertification

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Item 6 of the provisional agenda

TRADITIONAL KNOWLEDGE

Report of the ad hoc Panel

Note by the secretariat

CONTENTS

		Paragraphs	Page
I.	INTRODUCTION	1 - 5	2
II.	SUMMARY OF DISCUSSION	6 - 29	2
III.	COMMON UNDERSTANDING OF THE TERM TRADITIONAL KNOWLEDGE	30	7
IV.	RECOMMENDATIONS	31 - 39	7
	A. Criteria to measure the reciprocity between traditional knowledge and modern knowledge and/or promote it	31 - 33	7
	B. Criteria to assess how networks and mechanisms created by the secretariat (regional networks, regional coordinating bodies, national focal points) are incorporating traditional knowledge and local knowledge in their work programmes	34	8
	C. Criteria to assess the socio-economic and ecological benefits of traditional knowledge in the light of environmental changes	35 - 39	8
V.	FURTHER RECOMMENDATIONS	40 - 46	9

Annexes

I.	List of participants	11
II.	Agenda of the ad hoc Panel on Traditional Knowledge	13

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I. INTRODUCTION

1. In accordance with decision 12/COP.3 of the Conference of the Parties, an ad hoc panel composed of 10 experts on traditional knowledge was appointed to develop further appropriate criteria in line with future work on benchmarks and indicators to be used by National Focal Points, as follows:

(a) To measure the reciprocity between traditional and modern knowledge and/or promote it;

(b) To assess how networks and mechanisms created by the secretariat (regional networks, regional coordinating bodies, national focal points) are incorporating traditional and local knowledge in their work programmes;

(c) To assess the socio-economic and ecological benefits of traditional knowledge in the light of environmental changes.

2. The ad hoc Panel was subsequently convened in Matera, Italy, from 8 to 12 May 2000. Mr. Pietro Laureano (Italy), was elected Chairman of the meeting and Mrs. Corinne Wacker (Switzerland) was elected Vice-Chair of the meeting. Mr. Falah Abounukta (Syrian Arab Republic) was elected Rapporteur. The members of the Panel and other participants at the Matera meeting are listed in annex I.

3. The UNCCD secretariat briefly summarized the work carried out during previous years. The participants were informed of the work on benchmarks and indicators, on traditional knowledge, on surveys and evaluations of existing networks and on the terms of reference of the Committee of Science and Technology and of the ad hoc panels.

4. Based on decision 12/COP.3, the Panel had a detailed discussion on the terms of reference defined in paragraph 1 above, and agreed to focus on recommendations at the national level and to underline the socio-economic and ecological benefits of traditional knowledge. Such knowledge should be considered and promoted as an important tool of sustainable development to alleviate poverty and environmental degradation. Moreover, the Panel highlighted that:

(a) Benchmarks and indicators had a significant importance on the process of reciprocity between traditional and modern technology;

(b) The recommendation in ICCD/COP(3)/CST/3, paragraph 26 (b) (iii), had been taken into account in other relevant decisions of the Conference of the Parties.

5. The Panel reviewed the reports presented by the consultants (annex I).

II. SUMMARY OF DISCUSSION

6. The ad hoc Panel on Traditional Knowledge reviewed the various articles of the United Nations Convention to Combat Desertification relating to traditional knowledge and considered that those addressed, in particular, to local populations in the affected areas were articles 2, 16(g) , 17(c), 18.2(a), and 18.2(b). Within the spirit of the Convention, the Panel recalls that the Convention aims to act towards the prevention, recovery and rehabilitation of sensitive areas so as to ensure social, economic and environmental sustainability and viability.

7. The Panel recommends to the States Parties of the Convention that they take appropriate measures in order to implement mechanisms of assessment according to their respective capacities by taking into account the social, cultural and economic aspects of each Party, and in order to carry out

activities of evaluation and promotion. The national liaison centres should be informed of those measures.

8. Considering that the proposed criteria take into account, whenever possible, prospective future work on benchmarks and indicators, the Panel proposes, within the traditional knowledge field, an assessment of the following criteria:

(a) The use of techniques at the local level in order to improve the living conditions of the populations in the affected areas;

(b) The ability of the population to adapt as appropriate the proposed technologies in the affected areas;

(c) The validity of the technology in the long term;

(d) The institutional measures of the States in accordance with their ability to develop an inventory of traditional knowledge and create a context favourable to its safeguarding, valorization and promotion;

(e) The actions carried out in order to encourage the diffusion of traditional knowledge and of the innovations in this field;

(f) The actions of the national liaison centres according to their ability to allow the production and promotion of local knowledge;

(g) The proposed technologies in accordance with their impact within a larger context with reference to the specific problem to be solved, that is, *inter alia*, the social, cultural and economic context as well as an integrated and holistic approach;

(h) The functional relationship between sustainable traditional management of the environment and the social, cultural and spiritual system of the local population within the framework of the management of natural resources.

9. Finally, the Panel proposes to consider benchmarks relating to the threshold of poverty, to the decrease of emigration and to the promotion of certain social categories, in particular, women and youth.

10. In the reports submitted by the Parties of the Convention, the Panel at the third session of the COP in Recife, Brazil, noticed that traditional knowledge had not been sufficiently taken into account. That was due not only to the fact that the Parties had had a very short time to elaborate their national reports, but also to the lack of terms of reference on this issue on the format and content of reports adopted by COP in its decision 11/COP.1. Some of the national and subregional reports do mention traditional knowledge and some regional thematic networks included traditional knowledge within their activities.

11. Within the formats adopted by the Conference of the Parties in its decision 11/COP.1 relating to the procedures for communication of information and review of the implementation of the Convention, traditional knowledge is not mentioned among the elements that should be included in the reports on the measures that each Party has taken in order to implement the Convention. Furthermore, the non-integration of traditional knowledge results in the regional networks, regional coordinating units and national centres of liaison created within the framework of the implementation of the Convention from:

(a) Non-efficient integration between traditional knowledge and scientific and technological experience;

(b) Lack of promotion of information and communication channels and supports;

(c) Weakness of the systems to collect data and make an inventory of knowledge;

(d) Weak enhancement of local knowledge.

12. In order to solve the above-mentioned problems, it is necessary to evaluate the existing methods and/or, if need be, develop a method taking into account the following items:

(a) Strengthening the capacity of basic community organizations;

(b) Developing a partnership and exchanges between the different actors;

(c) Improving the systems of data collection and inventory of local knowledge;

(d) Promoting channels and supports to disseminate information;

(e) Elaborating methods and procedures of integrating traditional knowledge and technical-scientific experience.

13. In the Rio conventions, which are similar to the UNCCD, elements such as deforestation, greenhouse gas, loss of biological species can be measured. In the Convention to Combat Desertification there are some key issues, such as traditional knowledge, that take into account socio-cultural, economic and ecological dimensions. Some of these components can hardly be measured for several reasons:

(a) Lack of available information and data;

(b) The socio-cultural contexts can only be analysed in terms of quality rather than quantity;

(c) In the field, given the interaction between the different elements, quantification is not always feasible.

14. The reasons why traditional techniques are not applied can be summarized as follows:

(a) A lack of awareness that environmental damage, soil degradation and desertification mostly result from the loss of traditional knowledge;

(b) A lack of information from technicians involved in national planning on the validity and benefits of traditional knowledge;

(c) A lack of information on the role to be assigned to traditional techniques and their operation;

(d) A lack of communication and exchange of successful experiences;

(e) A lack of awareness of the innovative use of traditional knowledge;

(f) Prejudices and the dissemination of criticisms of traditional knowledge.

15. The problems mentioned above result from a lack of information and communication. Some common prejudices, as mentioned in the last point, are given below, each with a refutation.

1. Traditional techniques constitute a specific and limited series of technical solutions.

16. The proposal is contradicted by the very same definition of traditional knowledge as an integrated learning organization, a complex system with multifunctional characteristics, an integral part of the collective identity's as well as social cohesion's construction process. Taking it as a series of expedients to solve specific problems is reductive and deceptive. Each traditional practice responds to a specific necessity but is highly integrated with the environmental and social context, and is part of a complex whole of social, ecological but also symbolic and aesthetic values.

2. They are not technologically competitive, with the result that they are technologically inefficient and less productive than modern technologies.

17. This critique is not justified since there is no reason to consider traditional techniques as less competitive, inefficient or unproductive than modern techniques. Traditional technology considers a series of contextual factors omitted by modern techniques, and results differ. The procedure is sometimes not that immediate and needs more work, however, this does not represent a negative feature in many countries that face unemployment problems. In order to assess the efficiency of a process, both internal and external aspects are considered. Indeed, the application of a technique determines the effects from the cradle to the grave of the necessary use of resources and has more general consequences on the entire economic, social and environmental system. These interactions are not taken into account in a modern technique based on specific and immediate yield criteria. On the contrary, traditional techniques are selected and accepted through a process of environmental, historical and social comparisons. Their efficiency is appraised according to their validity over the long term, their contextual benefits and their full sustainability.

3. Traditional techniques concern the developing world and are marginal compared to great economic and technological processes.

18. This is contradicted by the fact that the continuing consolidation and stabilization of the role of traditional technologies in society and in the economy can be verified, specifically in the more advanced countries. The traditional values, manufacturing practices and artisan capacities of traditional technologies are the basis on which is founded the great added value of yields of enormous economic importance for many advanced countries. In particular, typical alimentary produce (such as oil, cheese and wine) safeguards the quality of the land, both aesthetic and environmental, since old production systems are available thanks to the maintenance of traditional techniques of soil management. In the same field, increasing agricultural yields and quantities of biologically controlled meat are the result of even more interest in traditional techniques of cultivation and breeding. These considerations are true even in other sectors from quality gadgets to haute couture and from real estate to the building market. It is an advantage for the most renowned manufacturers to be able to list the traditional techniques they use and the success of many companies is actually due to having incorporated traditional techniques into their processes or to be located in traditional environments or historical centres.

4. They are proposed because of an ideological anti-technological vision

19. The fourth critique is to be rejected since, even if in the traditional knowledge movement there are some anti-technological components, on the whole, it is not true at all. Traditional knowledge is not proposed because it contains less technology compared to the conventional ones, but because it has better results, technologically speaking, compared to the determined

environmental and social context. Sometimes, it has the most refined technologies, some other times, it is very simple but still more appropriate, and is ecologically compatible and locally manageable. Furthermore, traditional knowledge is re-proposed through each single possible innovative use that is in conjunction with modern technologies which can operate within the same logic. As a matter of fact, it is the principle of traditional knowledge that is useful to spread and copy not the technique itself. This is actually possible thanks to the use of the most advanced technologies in the field of eco-energies, recycling, pollution-free production, and maintenance of old procedures thanks to low-impact processes of mechanization that are self-manageable.

20. The benefits of a technology are multifaceted according to the scales through which they can be observed. Within a macro-economic framework based on modern econometric principles, traditional technologies can be considered as marginal. However, from local and environmental points of view, traditional knowledge and its technology plays a primary role.

21. In order to understand the benefits of traditional knowledge, it is necessary to take into account the desertification process. Therefore, we can state that traditional knowledge:

- is ecologically adapted and viable;
- represents the skills of populations;
- is less expensive.

22. From a different point of view and taking into consideration the external constraints modern technologies can be transferred more easily than traditional knowledge which must be considered within its socio-cultural context. However, this is not easily done since the transfer method is not always available.

23. At a national level, a State must take the above-mentioned consideration into account. Moreover, in order to encourage the interest raised by traditional knowledge at the socio-economic and ecological levels, the Parties play a crucial role in creating an enabling environment and mentioning general obligations as well as the obligations of the affected Country Parties of the Convention under articles 4 and 5.

24. Furthermore, the Parties should make sure that technologies, knowledge, know-how and traditional practices are adequately protected and that local populations benefit on an equitable basis (in accordance with articles 1 and 5 of the Convention) of any resulting commercial activity or of any resulting technological development. These activities carried out by the States could create favourable conditions to maintain, produce and reproduce further knowledge and integrate it with modern technology and innovations.

25. Our environment is changing more and more rapidly in an unpredictable way due to internal and external pressures such as industrialization, agricultural mechanization, and the burden of debt, thus hindering the proper control of a sustainable nature resource management. At a local and national level, the enhancement of traditional knowledge and its integration in the way of managing and within a cultural context could be a possible answer to such pressures.

26. The answer to these pressures could be given by a small number of pertinent indicators of the key issues. The indicators should be simple, user-friendly and based on the existing and obtainable data. Such indicators will take into account the following environmental and socio-economic conditions: poverty, land abandonment, emigration, cultural dependency and loss of cultural identity.

27. They should also take into account the following socio-economic and environmental impact:

(a) Creation of new needs and expectations;

(b) The real participation of women, the elders as well as others from traditional and social categories;

(c) The loss of traditional rights; and

(d) Changes in the ways of access to water and land.

28. At the forums organized by the UNCCD secretariat in collaboration with the Mayor of Rome and the Mayor of Bonn, the mayors have shown their interest in the United Nations Convention to Combat Desertification. These forums focused on uncontrolled urbanization due to its high costs in terms of infrastructure, crime and urban equipment. These towns can no longer afford such high costs.

29. One example of how it is possible to decrease such costs is Cinque Terre, located in Liguria, Italy. In a village where the land has been completely abandoned and subsequently become subject to degradation, the mayors have granted parcels of land to persons who committed themselves to cultivate them by means of traditional techniques. Therefore, agricultural terraces have been re-built, crops re-planted and the soil replenished, thus increasing tourism. Nowadays, the resulting products are considered as traditional biological products and sold at a higher price. Some innovations have been implemented in order to enable terrace management along the slopes, thus avoiding the hard work that was required in the past for its maintenance. Thanks to the Internet it is possible to sell the products all over the world.

III. COMMON UNDERSTANDING OF THE TERM TRADITIONAL KNOWLEDGE[1]

30. "Traditional knowledge consists of practical (instrumental) and normative (enabling) knowledge about the ecological, socio-economic and cultural environment. Traditional knowledge is people-centred (generated and transmitted by people as knowledgeable, competent and entitled actors), systemic (inter-sectorial and holistic), experimental (empirical and practical), transmitted from one generation to the next and culturally valorised. This type of knowledge promotes diversity; it valorises and reproduces the local (internal) resources."

IV. RECOMMENDATIONS

A. Criteria to measure the reciprocity between traditional knowledge and modern knowledge and/or promote it

31. To assess reciprocity, the ad hoc Panel understands, on the basis of the common understanding of traditional knowledge that:

(a) Traditional knowledge consists of practical (instrumental) and normative (enabling) knowledge about the ecological, socio-economic and cultural environment, as defined in ICCD/COP(3)/CST/3;

(b) The term "knowledge" is defined as a knowledge system (traditional knowledge and modern knowledge) composed of content, roles, institutions and theoretical concepts, which are produced and reproduced in an enabling cultural and natural environment;

(c) The term "reciprocity" is defined as a relationship between two knowledge systems based on equity and mutual benefit.

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[1] See ICCD/COP(3)/CST/3.

32. To promote reciprocity between traditional and modern knowledge t implement programmes to combat desertification, the following questions shou be asked:

(a) Do the mechanisms enable and promote affected communities to use a develop their traditional knowledge in combating drought and desertificatio

(b) If yes, are the means adequate to meet their needs?

33. The measurable indicators to assess if the above criteria are fulfill include, as a ratio between traditional and modern knowledge:

(a) The amount of funds given to communities who apply tradition knowledge;

(b) The number of contracts and/or projects given to them to utili traditional knowledge;

(c) The number of research projects and projects on tradition knowledge implemented in partnership with communities.

B. Criteria to assess how networks and mechanisms created by the secretariat (regional networks, regional coordinating bodies, national focal points) are incorporating traditional knowledge and local knowledge in their work programmes

34. The ad hoc Panel invites the Conference of the Parties to encoura Parties, through National Focal Points, according to their respecti capabilities and subject to their respective national legislation and/ policies:

(a) To analyse the existing mechanisms;

(b) To recognize the role, utility and sustainability of tradition knowledge;

(c) To assess how networks incorporate traditional and local knowled into their work programme by using following criteria;

(d) to assess the number of research and development projec implemented by the National Action Programmes in partnership with experts traditional knowledge using the following indicators: (i) to prevent the lo of traditional knowledge; (ii) to rehabilitate institutions of tradition knowledge; and (iii) to rebuild, where necessary, adequate mechanisms th generate, test and disseminate traditional knowledge.

C. Criteria to assess the socio-economic and ecological benefits of traditional knowledge in the light of environmental changes

35. To assess the socio-economic benefits of traditional knowledge, the ad h Panel recommends assessment of the National Action Programmes to discover they have established mechanisms that allow communities affected by drought a desertification:

(a) To choose between remedies derived from traditional knowledge a modern knowledge to revitalize and reclaim affected areas;

(b) To carefully pre-evaluate and document proposed projects by usi an evaluation grid including the five dimensions of sustainabili (institutional, social, technical, economic and environmental);

(c) To maintain and, if necessary, develop long-term entitlements of local communities to the land and water resources of their environment.

36. The ad hoc Panel further recommends the use of criteria derived from the policies of the Convention to assess the benefits of traditional knowledge in the light of environmental changes based on the following steps:

(a) To take traditional knowledge as a starting point of the assessment;

(b) To evaluate the social, institutional, ecological and economic conditions of reproduction of traditional knowledge;

(c) To assess its instrumentality for the implementation of the objectives of the Convention;

(d) To evaluate its socio-economic and environmental benefits using UNCCD criteria.

37. Proposed UNCCD criteria are:

(a) In the area of socio-economic benefits, *inter alia*: self-sufficiency in food production, poverty alleviation and improvement of livelihood, gender equality and employment;

(b) In the area of environmental benefits, *inter alia*: adaptation to a changing environment, improvement of the ecosystem, protection of natural resources and protection of fragile ecosystems and their biodiversity.

38. The ad hoc Panel also recommends an assessment of the existence of instruments to protect traditional knowledge in the context of a free-market competition, in accordance with article 18.1(e) of the Convention.

39. To develop criteria to assist in the selection of suitable technologies, the following should be taken into consideration:

(a) Social, economic and environmental sustainability;

(b) Socio-economic conditions of the area/ecosystem to which such technologies will be applied;

(c) Role of traditional knowledge and of the communities that are applying, reproducing and improving the said knowledge;

(d) Process of reciprocity of traditional and modern knowledge, to be furthered through appropriate arrangements.

V. FURTHER RECOMMENDATIONS

40. The ad hoc Panel reviewed the whole work undertaken on traditional knowledge and the documents endorsed by the different sessions of the Conference of the Parties. Taking into account the outcome of the discussions held in Matera, the ad hoc Panel also recommended the following:

41. A network of experts, institutions, organizations and bodies having experience in the field of traditional knowledge should be established. This network should comprise experts on traditional as well as modern knowledge and having expertise on dialogues between different knowledge systems. These experts should:

(a) Compile data on existing traditional knowledge;

(b) Advise decision makers on the design and implementation of research and development programmes related to the Convention, as well as assist in monitoring and evaluating them;

(c) Advise National Focal Points and National Coordination Bodies on how to establish cooperation in the fields of transfer, adaptation and dissemination of traditional and modern knowledge;

(d) Encourage National Focal Points to promote communications and technical exchanges on traditional and modern knowledge between the Parties;

(e) Disseminate information to the public on imported technologies through the appropriate channels.

42. A working group of representatives of institutions should be set up with the purpose of defining terms of reference for national and regional inventories of traditional and local knowledge. These inventories should contain data and information on: (a) social and economic benefits; (b) environmental benefits; and (c) conditions of reproduction and evolution of traditional knowledge.

43. The ad hoc Panel took note that the Italian authorities are in the process of establishing an international research centre on traditional knowledge in Matera, Italy, in collaboration with UNESCO and the secretariat of UNCCD. The ad hoc Panel congratulates such initiatives and encourages all countries or regions to do same and/or to create linkages with the centre in Matera.

44. In consideration of the effectiveness of the implementation of the UNCCD at national level, the ad hoc Panel also recommends:

(a) Dissemination of information on the basis of the existing inventories;

(b) Identification of specific action to be incorporated into national action programs;

(c) Identification of possible technical and financial support to implement these complementary activities.

45. The Panel also recommended consideration by the network of the importance of dialogue between traditional and modern knowledge prior to the implementation of an imported practice.

46. Recalling decisions 12/COP.3 and 15/COP.3 on the roster of independent experts, the ad hoc Panel invites Parties to ensure better representation of disciplines in the area of cultural anthropology, oral history, history of technology and law, and encourages the inclusion of experts on traditional knowledge in the roster.

Annex I

LIST OF PARTICIPANTS

Members of the ad hoc Panel on Traditional Knowledge appointed by the Conference of the Parties and consultants presenting reports at the Matera Meeting

Dr. Falah Abounukta	Syrian Arab Republic
Mr. Etumesaku Diunganumbe	Democratic Republic of Congo
Dr. Pietro Laureano	Italy
Mrs. Nery Urquiza	Cuba
Mr. Ashot Verdevanian	Armenia
Dr. Corinne Wacker	Switzerland

Consultants presenting reports at the Matera Meeting

Mr. Emmanuel Seck:	Report on the consideration of local knowledge by the action programmes, networks and mechanisms set up by the UNCCD secretariat to promote programmes combating desertification on the regional and national scales
Mr. Yang Youlin:	Report on the measurement of the reciprocity between traditional and modern knowledge and their promotion
Dr. Pietro Laureano:	Appraisal criteria of traditional knowledge from the national focal points

Members presenting reports at the Matera Meeting

Dr. Corinne Wacker:	Incorporating traditional knowledge in the implementation of the Convention through appropriate assessments

Observers at the ad hoc Panel

Dr. Thomas Schaaf	United Nations Educational, Scientific and Cultural Organization (UNESCO)
Dr. Domenica Sabia	Italy
Dr. Maurizio Sciortino	Italy
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Annex II

Agenda of the ad hoc Panel on Traditional Knowledge

Monday, 8 May 2000

Election of the Chairman of the ad hoc Panel
Welcoming Statement by a Representative of the Italian Ministry of Environment
Opening of the Panel Meeting by the Chairman of the ad hoc Panel Meeting
Remarks by the representative of the UNCCD secretariat
Appointment of topic Chairs and rapporteurs

Tuesday, 9 May 2000

Topic 1: Develop appropriate criteria in line with future work on benchmarks and indicators, to be used by national focal point so as to measure the reciprocity between traditional and modern knowledge and/or promote it.

Presentation and discussion of Topic 1

Wednesday, 10 May 2000

Conclusion of Topic 1

Topic 2: Develop appropriate criteria in line with future work on benchmarks and indicators, to be used by national focal point so as to assess the socio-economic and ecological benefits of traditional knowledge in light of environmental changes.

Presentation, discussion and conclusion of Topic 2

Thursday, 11 May 2000

Topic 3: Develop appropriate criteria in line with future work on benchmarks and indicators, to be used by national focal point so as to assess how networks and mechanism created by UNCCD secretariat (regional networks, regional bodies, national focal points) are incorporating traditional and local knowledge in their work programmes.

Presentation, discussion and conclusion of Topic 3

Friday, 12 May 2000

Adoption of the conclusions of the meeting

Adoption of the report

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SURVEY AND EVALUATION OF EXISTING NETWORKS, INSTITUTIONS, AGENCIES AND BODIES

Note by the secretariat

1. In its decision 13/COP.3, the Conference of the Parties took note of the necessary contractual arrangements entered into by the head of the secretariat with the United Nations Environment Programme (UNEP) on behalf of the Conference for the completion of phase one of the work on the survey and evaluation of existing networks, institutions, agencies and bodies.

2. Having taken note of the interim report on phase one of the survey and evaluation exercise submitted by UNEP on behalf of its consortium of partners, the Conference of the Parties has decided:

(a) To support the realization of a second phase that would focus on the southern Africa subregion;

(b) To request the secretariat to draft the terms of reference for phase two of the survey and evaluation, based on the phase one report and the discussions in the Committee on Science and Technology, as well as possible further inputs from Parties on their expectations of phase two, to be sent to the secretariat no later than 31 December 1999;

(c) To request UNEP to submit an update to the above report on phase one, based on the discussions of the Committee on Science and Technology at its third session and written comments to be sent by the Parties no later than 31 December 1999 through the secretariat;

(d) To request the Bureau of the Committee on Science and Technology, at its inter-sessional meeting, and after satisfactory consultation with the regional groups, to approve the terms of reference for phase two of the survey prepared by the secretariat;

(e) To authorize the secretariat to initiate the open tendering process for contractors to implement phase two of the survey and evaluation, and subsequently to enter into a contractual arrangement with the successful bidder.

3. For the purpose of the present report, the secretariat has drafted terms of reference for phase two of the survey and evaluation of existing networks, institutions, agencies and bodies, to be conducted in the southern Africa subregion.

4. The terms of reference for phase two as drafted by the secretariat, together with the update to the report on phase one prepared by UNEP, were circulated to the Bureau members of the Committee on Science and Technology and to the Southern African Development Community (SADC) focal point, for approval at the Bureau's inter-sessional meeting held in Bonn, Germany, from 4 to 6 October 2000.

5. The Committee's Bureau members considered and approved the terms of reference for phase two as prepared by the secretariat.

6. The Bureau members considered the advantages and the drawbacks of the various options for an open tendering process for phase two of the survey and evaluation and concluded that the most productive and appropriate approach to the implementation of this phase would be to invite UNEP and its consortium to continue their work.

7. The Bureau requested UNEP to submit to the Convention secretariat, by 10 November 2000, its tender and its work plan for the conduct of phase two of the survey and evaluation, and to indicate when the members of its consortium would be named.

8. The Bureau also invited UNEP and its consortium to take due account of the terms of reference contained in the annex to the present document in the tender to be submitted for the conduct of phase two of the survey and evaluation.

9. The submission by UNEP is contained in document ICCD/COP(4)/CST/3/Add.1, for consideration by the Conference of the Parties at its fourth session.

Annex

TERMS OF REFERENCE AND PROPOSED ORGANIZATION OF WORK TO BE UNDERTAKEN IN THE SECOND PHASE OF THE SURVEY OF NETWORKS AND INSTITUTIONS, AGENCIES AND BODIES WILLING TO BECOME UNITS OF A NETWORK TO SUPPORT IMPLEMENTATION OF THE CONVENTION

1. Background

Pursuant to articles 16 to 18, 19 and 25 of the United Nations Convention to Combat Desertification (UNCCD), the Intergovernmental Negotiating Committee for the Elaboration of an International Convention to Combat Desertification (INCD), at its tenth session, approved a networking of institutions, agencies and bodies as one of the priority areas of the initial Committee on Science and Technology (CST) work programme. Accordingly, the CST, under the supervision of the Conference of the Parties (COP) was to undertake a survey and evaluation of relevant existing networks, institutions, agencies and bodies willing to become units of a network to support the implementation of the Convention.

The work plan of such a survey and evaluation activity for the CST was to be broken down into three phases, namely: (1) identification and survey of the principal potential units, particularly networks, and establishment of a database based on responses to this Phase One survey; (2) a pilot, in-depth survey and evaluation of units in other regions and subregions; and (3) replication of the pilot survey and evaluation of units in other regions and subregions. In all three phases, the units (networks, institutions, organizations, agencies and bodies) shall include governmental, intergovernmental, non-governmental, academic and other private sector entities.

The secretariat, on behalf of the COP and in accordance with the terms of reference endorsed by CST/COP, appointed a consortium led by the United Nations Environment Programme (UNEP) to carry out Phase One activities.

The COP, having taken note of the interim report of the survey and evaluation contained in document ICCD/COP(3)/CST/4 submitted by UNEP on behalf of its consortium members, and bearing in mind that Phase Two will necessitate a pilot approach to advance the survey and evaluation as a whole and further develop and test survey instruments with a view to evaluating both the interest and the capabilities of networks, institutions, agencies and bodies to support the implementation of the Convention, decided to support the realization of a second phase of the survey and requested the secretariat to draft the terms of reference for it, based on the Phase One report, the discussions in the CST at the COP 3 and inputs from Parties on their expectations of Phase Two (received by 31 December 1999) in the southern Africa subregion (decision 13/COP.3).

2. Phase Two

According to the above-cited decision and in conformity with the Phase One report and input from Parties, the Phase Two terms of reference apportion the work plan of the survey and evaluation into three activity categories as follows:

(a) A pilot, in-depth survey and evaluation of the potential units in the southern Africa subregion, including further development and testing of the survey instrument[s] (applicable to in-depth evaluation of networks, institutions, agencies and bodies). Due attention should be paid to those institutions working on training and education programmes for undergraduate and post-graduate personnel;

(b) Ongoing maintenance and quality control of the database created during Phase One, including continuing entry of any further responses received to the Phase One survey instrument;

(c) Operationalization of the database through appropriate awareness-raising and thematic-based inter-active activities.

3. Tasks expected to be completed by the Contractor in carrying out the in-depth survey and maintenance of the database

(a) To further develop the survey instrument for carrying out the in-depth survey and evaluation of the principal existing networks, institutions, agencies and bodies in the southern Africa subregion relevant to the effort to combat desertification and their role in areas such as information collection and exchange, research, technology transfer, benchmarks and indicators, capacity-building, policy formulation and local-level activities;

(b) For the subregion of southern Africa, to describe the actual respondents to the Phase One survey (including infrastructure, mode of operation and willingness and capacity to contribute to the implementation of the Convention), and map their geographical distribution;

(c) To describe categories of actual and potential end users of the database;

(d) To explore information needs of actual and potential users and the extent to which such needs are being met in relation to the provisions of articles 16 to 18 and article 19 of the Convention;

(e) To describe the linkages between the principal networks in the subregion and their linkages beyond the subregion;

(f) To elaborate to actual and potential users the structure of the network, the roles, responsibilities and benefits of being a member of the network, and the purposes, methods and benefits of strengthening networks at various levels;

(g) To provide ongoing maintenance of the interactive web-based database established during Phase One, including quality control and continuing entry of any further responses received to the Phase One survey instrument;

(h) To suggest a strategy, pursuant to this pilot in-depth survey, by which a global network of appropriate networks, institutions, agencies and bodies can be established for the purpose of supporting the implementation of the Convention;

(i) To conduct an in-depth survey and evaluation of potential units, particularly existing networks, and to further develop and test survey instrument[s] for replicating the second phase;

(j) To ensure the active participation of national focal points in carrying out the in-depth survey;

(k) To explore the potential for decentralized maintenance of the database, and identify appropriate institutions at the national, subregional and regional level that will assume the responsibility of housing the database and provide maintenance services. The technological requirements for decentralized database management should be identified.

4. Solicitation of bids from organizations

The CST Bureau requested UNEP on behalf of its consortium members to submit to the secretariat a costed proposal and work plan to carry out Phase Two activities by 10 November, at which time the proposed membership of the consortium will be identified.

5. Within the framework of these terms of reference, the head of the Convention secretariat, with the approval of the COP 4, is authorized to conclude contractual arrangements with UNEP and consortium members to undertake work on Phase Two.

6. UNEP is requested to report on the progress of the work to the CST at the fifth session, for the consideration of the COP 5.

7. UNEP and consortium members will carry out the Phase Two work plan in accordance with the above-cited terms of reference.

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SURVEY AND EVALUATION OF EXISTING NETWORKS, INSTITUTIONS, AGENCIES AND BODIES

Addendum

Note by the secretariat

1. Pursuant to the provisions of paragraph 1 of article 25 of the United Nations Convention to Combat Desertification (UNCCD), the Committee on Science and Technology (CST) is to make provision for undertaking a survey and evaluation of relevant existing networks, institutions, agencies and bodies willing to become units of a network to support implementation of the Convention.

2. Pursuant to paragraph 4 of decision 13/COP.3, the Bureau of the Committee on Science and Technology at its inter-sessional meeting considered the advantages and disadvantages of various options related to the tendering process to carry out Phase 2 activities, and decided that the most timely and productive means for carrying out Phase 2 of the survey and evaluation of existing networks was to request the United Nations Environment Programme (UNEP) and its consortium members to continue their work. The CST Bureau invited UNEP to submit by 10 November 2000 the proposed membership of the Consortium, a costed proposal and a workplan to carry out Phase 2 activities.

3. The submission from UNEP is annexed hereto as requested by the CST Bureau.

CONTENTS

Pa

PROJECT PROPOSAL 3

A. Background 3
B. The project approach/rationale 4
C. Project outputs 6
D. Timetable and major groups of activities 7
E. Project costs 8
F. Cash advance requirements 8
G. Institutional framework, responsibilities and contributions 8
H. Monitoring and reporting 9
I. Responsibility for cost overruns 9
J. Claims by third parties against UNEP 9
K. Validity of the offer 9

Annexes

I. Southern Africa background 1
II. Modified Log-frame 1
III. Estimated costs 1

PROJECT PROPOSAL

Title of project: ***Phase 2 of the survey and evaluation of networks, agencies and bodies relevant to the implementation of the Convention: Pilot in-depth survey in the southern African subregion and maintenance and development of the database developed during Phase 1***

Submitted to the secretariat of the Convention to Combat Desertification and Drought (UNCCD) for consideration of the Committee on Science and Technology (CST)

by

the United Nations Environment Programme, the Coordinating Organization, on behalf of a Consortium of United Nations Organizations and specialized agencies and appropriate subregional and governmental and non-governmental organizations.

A. Background

1. With reference to article 25 of the UNCCD, the Intergovernmental Negotiating Committee On Desertification (INCD), at its tenth session, approved the networking of institutions, agencies and bodies as one of the priority areas of the initial CST work programme. Accordingly, the CST, under the supervision of the Conference of the Parties (COP), was to undertake a survey and evaluation of relevant existing networks, institutions, agencies and bodies willing to become units of a network to support the implementation of the Convention.

2. This survey and evaluation was to be carried out in three phases, namely: (a) a global survey to identify the principal potential units, particularly networks; (b) a pilot, in-depth survey and evaluation of potential units in a particular region and subregion; and (c) replication of the in-depth survey and evaluation of units in other regions and subregions. In all three phases, the units (networks, institutions, organizations, agencies and bodies) surveyed and evaluated include governmental, intergovernmental, non-governmental, academic and other private sector entities.

3. For this purpose, a consortium of several competent organizations and institutions led and coordinated by UNEP was subcontracted to carry out Phase 1 of this survey. UNEP submitted the final updated report of Phase 1 on 31 January 2000.

4. The secretariat of the UNCCD, authorized by the Bureau of the CST, invited the UNEP-led Consortium to submit an offer for carrying out Phase 2 of the survey, which includes an in-depth survey of networks and units in southern Africa; maintenance, quality control and further development of the Web site/interactive database developed during Phase 1; and operationalization of the global network of networks (see the Terms of Reference in ICCD/COP(4)/CST/3).

5. In response to the above-mentioned invitation and the Terms of Referenc UNEP, on behalf of the Consortium[1] led by it, offers to undertake Phase 2 of t survey as follows:

B. The project approach/rationale

Problem statement

6. Sharing of information and networking have been identified as key elemen for effective and efficient combating of desertification worldwide. Howeve the establishment of functional, value-adding networks is resource- a personnel-intensive, and to date many well-meant networking initiatives rema under-utilized by their primary and potential secondary users. This particularly true in developing countries. For technical and infrastructu reasons networks are often difficult to establish and to maintain; mo important, they have difficulty in serving their clients. At the same tim while network platforms are being created, the capacity to use them is usual not being strengthened. The absence of vertical networking, that is, making su that even those without access to electronic technology nevertheless have acce to information, is a major drawback to the success of most networking effort Many key stakeholders with electronic information potential are so ful involved in staying abreast of developments in the developed countries that th are unable to network adequately within their own developing countries. In t case of the UNCCD, with its emphasis on bottom-up implementation, it particularly important that all key stakeholders important to the UNCCD involved, and that the project design reaches out to the grassroots level particular. Vertical networking across all user and stakeholder groups is essential component of networking that must be addressed. This propos addresses identification of existing networks that are primarily involved information exchange with developed countries via electronic technolog however, it also addresses those networks that may be served by electron technology but they themselves, in turn, serve as networks in support information exchange with the grassroots level.

Approach

7. In addition to responding to the invitation by the CST of UNCCD to condu this survey, the purpose of pilot project implementation in the southern Afric subregion (annex I) is to improve subregional networking, enhance nation capacities to combat desertification, and consequently contribute to sustainab livelihoods in the countries of the region.

8. After completion of contractual arrangements between UNEP and the UNC secretariat, UNEP will make sub-contracts with the other members of t Consortium during the first two months of the project execution. This period a the preparation of the bid (including definition of roles of differe consortium members in the execution of the project) are called prelimina activities. These activities will be followed by e-mail collaboration on (a) t development of survey instrument(s) and evaluation criteria for the in-dep survey of southern African principal existing networks/units, and (b) Web si and database maintenance/development. This preparatory action will culminate a planning workshop, where the survey and evaluation tools, implementation pla and division of labour will be finalized.

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[1] This consortium is composed of: Desert Research Foundation of Namibia (DRFN German NGO-Working Group on Desertification/RIOD-NFP, the International So Reference and Information Centre (ISRIC), Environment and Land Management Sect of the Southern African Development Community (SADC-ELMS), the United Natio Development Programme (UNDP), the United Nations Environment Programme (UNEP the World Meteorological Organization (WMO), and the University of Arizona.

9. It is envisaged that the introductory cover letters of the survey instruments will elaborate in detail the purpose and ultimate goal of the global network of networks, institutions/units and the potential benefits and responsibilities of its members. The survey instrument in turn will expand upon the number of southern African networks/institutions surveyed in Phase 1 and will also expand on the degree of detail elicited from those networks/institutions already surveyed in Phase 1. For example, as in Phase 1 each unit, the first time it is contacted, will be asked to describe: (a) its structure, geographical scope, mode of operation and potential to work for the Convention; (b) its role in areas such as information collection and exchange, research, technology transfer, benchmarks and indicators, capacity-building, policy formulation and local-level activities; and (c) the actual and potential users of the network/unit and their information needs. All responding networks/units will be further surveyed during Phase 2 by means of interview survey/evaluation instruments to elicit more detailed, in-depth information regarding these points.

10. The evaluation criteria to be developed for all units to be contacted would explore their general potential for working to implement the UNCCD, based on such factors as committed staff, availability of resources, depth of experience in desertification work and level of activity. The survey instruments (letters and questionnaires) would be sent to these networks/units by e-mail, wherever possible, and by fax or mail if necessary. This distribution phase would be followed by visits to interview and consult with each party to be surveyed and evaluated. In order to ensure better vertical integration of the network a national-level awareness and training workshop for (UNCCD-relevant) national stakeholders would be arranged as part of this consultative visit programme component. Based on the above-mentioned criteria, linkages between the principal networks (including gaps and overlaps) would then be identified and described both within southern Africa and ultimately, in Phase 3, throughout the rest of Africa and globally.

11. This pilot in-depth survey and evaluation of existing UNCCD-related networks and organizations in the southern African subregion would target non-governmental organizations (NGOs), community-based organizations (CBOs), governmental, parastatal, research and university bodies as well as international organizations, and assess their capacity and needs for effective implementation of the UNCCD.

12. The maintenance and further development of the interactive Web site and Web-based database would include updating and quality control of Phase 1 entries (globally) and continued addition of entries from the subregion. The database search engine and foreign language capabilities would also be further developed and refined. Links to and possible integration with other related networks and databases, such as UNEP.NET and those of other conventions (United Nations Convention on Biological Diversity (UNCBD) and United Nations Framework Convention on Climate Change (UNFCCC)) would be established. Also links to other/general commercial search engines (e.g. Alta Vista, Google) and directory sites (e.g. Yahoo) would be explored to the extent possible.

13. The database would be operationalized within the subregion especially through the capacity strengthening of the local users. The national visits and national workshops mentioned above would provide the baseline information for necessary action and serve as the first step in the network operationalization process. Survey instruments and methods for operationalization of the database globally would also be further developed and tested.

14. The potential for a subregional database to be developed and linked to the Phase 1 database/global network will also be explored, and it will be tested during Phase 2, if deemed appropriate by Consortium members. A study on the potential for decentralizing database housing and maintenance would be prepared for consideration by CST.

15. A draft strategy would be developed for replicating the in-depth survey in other subregions in Africa and elsewhere in Phase 3 and for establishing a global network of networks for implementation of the Convention.

16. The main activities suggested are elaborated in the form of a modified log-frame analysis (annex II).

17. This project would take two years to complete; UNEP would provide a progress report to COP 5 in 2001 and submit the final report to COP 6.

C. Project outputs

18. The expected project outputs are as follows:

(a) Criteria for further evaluation of institutions, agencies and networks developed;

(b) Methodology and survey instruments (questionnaires and interview survey/evaluation instruments and training kits for national/sub-national operationalization of the database) formulated for conducting the pilot in-depth surveys and further evaluation of potential units in the southern African subregion;

(c) Principal existing networks and units in southern Africa evaluated in-depth, and their roles further defined in relation to specific articles (16-18 and 19) of the Convention;

(d) Linkages between these principal southern African networks, including gaps and possible overlaps, further identified and described; also linkages between these networks and networks elsewhere in the region and globally described;

(e) The Web site/interactive database management system maintained and further developed: (i) updating and quality control of data entries undertaken (and continued); (ii) database design further refined/expanded to accommodate Phase 2 data; (iii) search engine capabilities and data entry/search capabilities in different European languages further developed and refined; and (iv) links to and integration with other related databases and networks (e.g. UNEP.NET, UNCBD, UNFCCC) developed as well as links to commercial search engines/directory sites further explored;

(f) Potential to develop and implement a subregional part of the database explored and operationalized as deemed appropriate by Consortium members;

(g) Operationalization of the global network of networks planned and started;

(h) A draft long-term strategy for housing and maintenance of the Web site/database prepared, including exploration of possibilities for decentralized database housing and management services in the southern African subregion;

(i) Strategy for conducting the further in-depth surveys and evaluation of potential units in other regions and / or subregions (i.e. replication of Phase 2 activities in other regions) developed and a methodology for it defined;

(j) A draft strategy formulated for establishing a global network of appropriate institutions, agencies and bodies for supporting the implementation of the Convention;

(k) A final project report prepared and submitted to CST.

D. Timetable and major groups of activities

Description of activity	Involved Consortium member	Timing months from start	Comments
A. In-depth survey and evaluation of networks and units in southern Africa			
Preliminary activities**	All	-2-0	
A.1. Development of survey instruments	All	1-2	
A.2. Development of evaluation criteria	All	1-2	
A.3. Development of training (operationalization) kits	DRFN, RIOD	1-2	
A.4. Planning meeting	All	2	
A.5. Translation of survey instruments	DRFN and UNEP	3	
A.6. Initial contacts/ correspondence to parties to be surveyed	SADC, DRFN, NFPs, RIOD	4	
A.7. Detailed planning of survey missions	DRFN, SADC, RIOD, NFPs	5	
A.8. National consultative survey missions to southern African countries	Survey teams (DRFN consultants)	6-10	ref. item B.3 below
A.9. Compilation and analysis of survey results: • Analysis of actual and potential users • Analysis of linkages between networks • Analysis of information needs • Analysis of roles, benefits and responsibilities (working principles)	DRFN, SADC, RIOD, UNEP	11-14	
A.10. Development of a draft strategy for a global phase 3 survey (replication of phase 2 in other regions and development of global network of networks)	UNEP to prepare a draft for email conference with other members	15-17	
A.11. Synthesis workshop	All	18	
A.12. Preparation and submission of the draft final report	UNEP	19-24	
B. Maintenance and quality control of the Web site/interactive database			
B.1. Review and analysis of Phase 1 respondents	UofA, ISRIC, RIOD	3-6	
B.2 Maintenance and updating of data	UofA, ISRIC, RIOD, DRFN	4-8	
B.3. Operationalization of the database • Subregional operationalization (incl. vertical training at national level) • Global operationalization	DRFN and RIOD with NFPs, UNEP, UofA	4-24	

Description of activity	Involved Consortium member	Timing months from start	Comments
B.4 Further development of database search engine and design, establishment of linkages with: • Other related databases e.g. UNEP.NET, UNCBD, UNFCCC • Commercial and other search engines and directory Web sites • Exploration of commercial links	UofA with inputs from other Consortium members	1-24	
B.5. Development of a long-term strategy for housing and maintenance of the Web site and Web-based database, including	UofA, UNEP	20-22	
• Technical report on database requirements	UofA	8-12	
• Analytical study of the feasibility of a decentralized subregional database and of possible units for hosting it	DRFN	18-22	

* For more details please refer to Annex II.

** Preliminary activities include completion of agreement formalities between UNEP (on behalf of the Consortium) and UNCCD secretariat (on behalf of the CST/COP/CCD), transfer of funds allowing UNEP to finalize agreements and subcontracts with other Consortium members. These activities are estimated to take about two months (ref. above months from -2 to 0). The actual implementation will take 24 months after completion of the preliminary activities.

E. Project costs

19. The total cost of the project is US$655,000. A detailed budget is shown in Annex III.

F. Cash advance requirements

20. UNEP, being the coordinator of project implementation, will estimate the aggregate cash requirements for the project for each quarter, using the project budget shown in annex III. This will include a reasonable amount to cover "lead time" for the next remittance. A request will be sent accordingly to the Chief of Finance of the UNCCD secretariat (on behalf of the CST). In addition UNEP will submit a quarterly project expenditure account showing expenditures incurred for each sub-project. On the basis of the expenditure account and the request for an additional advance, the Chief of Finance of the UNCCD secretariat will remit funds to UNEP in the form of a lump sum for all sub-projects combined.

21. Each Consortium member involved in project implementation will estimate its aggregate cash requirements for each quarter, including a reasonable amount to cover "lead time" for the next remittance, and send a request accordingly to the Chief, Fund Programme Management Branch. In addition the Consortium member will submit a (sub-) project quarterly expenditure account. On the basis of the expenditure account and the request for an additional advance, the Chief Fund Programme Management Branch, UNEP, will remit funds to the Consortium member in the form of a lump sum.

G. Institutional framework, responsibilities and contributions

22. UNEP, in its function as coordinator of the Consortium, undertakes the responsibility for project implementation. This includes signing the contract with CST on behalf of the Consortium members; establishing sub-contracts or

sub-projects with Consortium members, in line with their proposed contributions and the inputs agreed upon Consortium-wide; recruiting consultants for specific tasks as necessary and agreed upon by the Consortium; evaluating contributions and inputs; and preparing necessary reports.

23. Each member of the Consortium, or other collaborating organization, is expected to interact with other partners in the Consortium to implement the project. In line with the Terms of Reference and based on specific expertise, knowledge and information, the Consortium member or collaborating organization will assume responsibilities and provide contributions as shown in section 4 (timetable and activities) of this document or as sub-contracted individually. A steering committee composed of Consortium members and collaborating organizations will advise on project implementation. During the implementation process additional tasks may be assigned to different Consortium members as required, according to their comparative advantages.

H. Monitoring and reporting

24. UNEP, as the coordinator of the Consortium, will monitor progress and establish a mid-term report on the basis of contributions and inputs received from Consortium members and collaborating organizations. UNEP, in close collaboration with the Consortium members and collaborating organizations, will prepare the terminal report and the submission of the agreed outputs to the CST.

25. UNEP shall submit quarterly project expenditure accounts and final accounts for the project, including all sub-projects, showing the amount budgeted for the year and, separately, the unliquidated obligations. The Consortium members and collaborating organizations shall submit to UNEP quarterly sub-project expenditure accounts and final accounts for the sub-project, showing the amount budgeted for the year and, separately, the unliquidated obligations.

I. Responsibility for cost overruns

26. A Consortium member or a collaborating organization is authorized to incur expenditures under any budget subline up to a maximum of 20 per cent over and above the amount foreseen in the project (sub-project) provided the total cost of the project (sub-project) is not exceeded. Any cost overrun on a specific budget subline above 20 per cent shall be met by the Consortium member or collaborating organization unless prior agreement has been given by UNEP. Any cost overrun of the total of a sub-project shall be met by the Consortium member and/or collaborating organization unless written agreement has been received in advance from UNEP, which in turn will seek agreement and confirmation that this eventual cost overrun will be met by the CST.

J. Claims by third parties against UNEP

27. Each Consortium member shall be responsible for dealing with any claims which may be brought by third parties against UNEP and its staff, and shall hold UNEP and its staff non-liable in case of any claims or liabilities resulting from operations carried out by the relevant Consortium member and collaborating organization under this project document, except where it is agreed by the Consortium member and the collaborating organization and UNEP that such claims or liabilities arise from gross negligence or wilful misconduct of the staff of UNEP.

K. Validity of the offer until 31 December 2000

Annex I. Southern Africa background

1. Introduction

1.1. The SADC region and desertification

Fourteen countries are allied through the Southern African Development Community (SADC): Angola, Botswana, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia, Zimbabwe. These countries have ratified the Convention to Combat Desertification (CCD). Although the environmental frame conditions are extremely varied within the SADC region, ranging from humid, sub-humid, semi-arid to arid climatic conditions and encompassing various ecosystems such as rain forests, woodlands, savannah systems, desert areas and marine environments, all countries experience desertification in one form or another. Land degradation and loss of productivity of the natural systems are seriously affecting the livelihood of people and sustainable development.

Neighbouring countries Comoros, Congo (Brazzaville), Madagascar and Reunion (France) are not associated within the SADC, however they are similar to some of the SADC member states in their environmental background as well as in their socio-political setting. These countries are therefore included in this proposal for the SADC region.

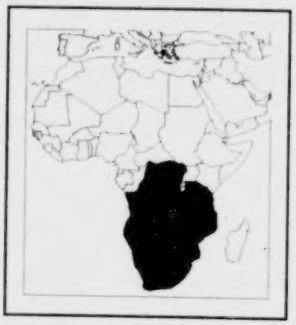

Figure 1. The 14 member states of the SADC region. Namibia, the most arid country south of the Sahara and host to the Desert Research Foundation of Namibia (DRFN) is highlighted. The "associate" states Comoros, Congo (Brazzaville), Madagascar and Reunion (France) are not highlighted.

The manifestations of desertification may differ between countries. Whereas deforestation and illegal logging are main concerns in countries such as Democratic Republic of the Congo, Malawi, United Republic of Tanzania and Zambia, often addressed through afforestation projects and tree planting initiatives, it is inadequate land reform in countries such as Namibia, South Africa and Zimbabwe that leads to high population and land-use intensities. These differing factors exacerbate pressures on the land in certain areas of the countries, especially in the former "homeland" areas or communal lands. In Botswana cattle and game fencing pose serious constraints to transhumance forms of range management. Mozambique, for example, with its recent history of war, has an unequal population distribution with high concentrations in the coastal areas. During the most recent flood catastrophe in southern Africa, the lower Zambesi valley was particularly seriously affected by the floods, mainly resulting from mismanagement of the natural environment in the upper Zambesi Valley, a clear desertification related phenomenon. Soil erosion and gully formation are serious threats to rural people and agricultural production in mountainous areas in southern Africa, and are main forms of desertification in, for example, Lesotho and Swaziland. The island states such as Mauritius and the

Seychelles are concerned with issues of freshwater supply and security, for example caused by the large-scale cultivation of sugar cane, on which their economies depend. Coastal soil erosion forms an additional threat. Angola is perceived as a wealthy country, considering its natural resources. However lack of management opportunities and other effects of the war hamper the sustainable use of the natural resources.

Although the manifestations of desertification may differ in nature and extent between and even within countries, there are important underlying parallels and similarities. The most important common effect is that the livelihood of peoples is being threatened as a result of desertification. Poverty, affecting well over three quarters of the population, is being exacerbated in already marginalized communities. Particularly in times of extreme environmental variability, including drought and flood, their precarious livelihood is threatened in the extreme. As it is envisaged that global climate change will lead to more frequent and accentuated natural disasters, combating desertification can be seen as an important preventive measure to reduce the precariousness of the livelihood of marginalized peoples.

All countries in the SADC region share some common realities such as a rapidly growing population (the average growth rate is above 3 per cent) and an extremely high rate of HIV/AIDS infection and related mortality, seriously affecting population structure, the economy and livelihood of the people within the region. In the rural environment these realities may strongly influence and determine the potential for and success in combating desertification and ultimately livelihood security.

Political systems and government structures are primarily centralized in the SADC region and are seldom designed to reach out to the people despite oft-cited plans for decentralization. However it is at the community, household and individual levels that livelihood security can be achieved and sustainable natural resource management is practised. Governments should create conducive policy frameworks and help to establish the necessary management capacities within the country, to facilitate development and sustainable natural resource management. To date management capacities at all levels, including public as well as private structures, are poorly developed and often depend on government and donor support.

1.2. Background to existing SADC networks under the UNCCD

The commitment of the national Governments within the SADC region to sustainable development and to combating desertification is manifested by the fact that member States are signatory to the UNCCD. Additionally most countries have signed other related environmental conventions such as the Convention on Biological Diversity (CBD) and the Framework Convention on Climatic Change (FCCC). A number of SADC countries have initiated a National Action Programme process under the umbrella of the UNCCD. Government as well as NGO structures are in place and representatives of both often serve on the steering committees of the National Action Programmes, which reach out to the grassroots level. However, the processes in the various countries seem to have taken very different avenues in their implementation and are currently at different stages of implementation.

The SADC NGO network formed under the UNCCD has evolved since the formation of the International Network of Non-Governmental Organizations to Combat Desertification (RIOD) in 1994. Several attempts have been made to establish functional regional (SADC-wide) structures that would facilitate information flow and exchange and capacity-building to combat desertification within SADC. The Environment and Land Management Sector (ELMS) of SADC, situated in Maseru, Lesotho, has been assigned a facilitating and coordinating role, for the governments of SADC member States as well as for NGOs. At the recommendation of SADC-ELMS the Council of Ministers has assigned several

"Centres of Excellence" as lead institutions for environmental issues within the SADC. The Gobabeb Training and Research Center (GTRC) in Namibia, for example, serves as the lead institute for desertification research, capacity building and networking. Under the RIOD umbrella, the SADC NGOs elected the new SADC NGO focal point in April 2000, after the previous lead organization had resigned its position. The Zambian Alliance of Women (ZAW) was elected as SADC Focal Point with Desert Research Foundation of Namibia (DRFN) serving as support institution. DRFN is also maintaining the SADC-wide environmental network NETWISE. Another SADC-ELMS initiated network is the Multi-disciplinary Scientific and Technological Consultative Committee (MSTCC). Although a plan of action has been elaborated for this entity it has been hampered by a lack of funds. DRFN has been appointed as the secretariat of the MSTCC. Under phase 1 of the "Survey and evaluation of networks, agencies and bodies relevant to the implementation of the UNCCD" the SADC region registered 84 willing and interested organizations from the NGO, CBO, government, parastatal, research and university as well as international sectors to be part of the SADC network (see DRFN, 1999). These organizations came from the core SADC region alone. A number of networks related to the UNCCD, however not strictly falling under the Convention, have been established in the subregion (e.g. SADC-NRM network, SADC land reform network).

Annex II. Modified Log-frame for Phase 2 of the Survey and Evaluation of Networks, Agencies and Bodies relevant for the implementation of the UNCCD

Results	Main activities	Indicators
1. A pilot in-depth survey and evaluation of existing UNCCD related networks and organizations in the southern African subregion has been conducted.	• Further develop the survey instrument for purposes of phase 2: questionnaires and personal interview survey instruments and training kits • Describe the actual southern African respondents to the Phase 1 survey (incl. information on infrastructure, mode of operation and willingness and capacity to contribute to the implementation of the Convention) • Describe categories of actual and potential end users of the database, map their geographical distribution and capacity strengthening needs to actively participate in the network • Explore information needs of actual and potential users and the extent to which such needs are being met in relation to the provisions of articles 16 to 18 and article 19 of the Convention • Describe the linkages among the existing and conceptualized principal networks in the subregion and their linkages beyond the subregion • Elaborate to actual and potential users the structures of the network, the roles, responsibilities and benefits of being a member of the networks, and the purposes, methods and benefits of strengthening networks at various levels • Ensure active participation of national focal points (government, NGO and CBO) in carrying out the in-depth survey • Test and strengthen flow of relevant information from the grassroots to the decision making levels and vice versa through "vertical" networking • Create awareness and strengthen capacity to effectively contribute to and make use of the database and relevant networks	• An initial workshop organized to develop survey instruments and implementation action plan • Relevant networks and units in the sub-region are surveyed through correspondence and person-to-person interviews, and consultative national level meetings with due attention to training and education programmes • All partner countries participate in multi-national synthesis workshop (at least one participant per country) to review the draft final survey report (including relevant country briefs) • Active Web-based interface with survey instrument on-line and accessible

Results	Main activities	Indicators
2. The Phase 1 database is maintained and developed as value is added through continued entries from the subregion as well as globally.	• Provide ongoing maintenance of the interactive Web-based database established during Phase 1 (globally), including quality control and continuing entry of any further responses received to the Phase 1 survey instrument • Add information and new entries from Phase 2 of the survey. • Further develop and refine the database search engine and foreign language capabilities • Establish links to other related databases • Explore further links to other/general commercial search engines and directory sites • Ensure active participation of national focal points (government and NGO) in adding relevant information to database	• 40% of Phase 1 partners actively submit entries in the subregion • An additional 20 units are added to the database and actively contribute to it in the subregion • Enhanced search engine(s) developed • Links to other relevant networks, eg. UNEP.NET and databases of other conventions (UNCBD and UNFCCC) established Search engines (e.g. Alta Vista, Google) and directory sites (e.g. Yahoo) approached
3. The database is operationalized and tested within the subregion especially through the capacity strengthening of the local users. The potential for establishing and developing a subregional part of the database is explored, evaluated, and implemented as deemed appropriate by the consortium and its link to the global network strengthened.	• Explore the potential for decentralized maintenance of the database in the subregion • Identify appropriate institutions at the national, subregional and regional levels that could assume responsibility for supporting and housing the database and provide maintenance services • Identify the technological requirements for decentralized database management at all levels and evaluate feasibility • Test the region's potential in housing and maintaining a subregional database, if deemed appropriate	• A subregional hub/ focal point for database agreed upon - in principle - by southern African countries • In 65% of 18 partner countries a national hub has been established • At least 10 interactions on the virtual communication platform take place per month by end of first year, increasing annually by 25% • Analytical study on decentralized database management done

Results	Main activities	Indicators
4. The survey instruments and methods for operationalization are further developed and tested for replication in other subregions in Africa and elsewhere. A draft strategy for phase 3 is developed.	• Establish criteria for primary, secondary, tertiary partners at global level • Examine existing networks and create links to UNCCD and its thematic networks, if not already established • Conduct an in-depth survey and evaluation of potential units for further testing the survey instrument and replicating the second phase approach in other regions or subregions • Test and evaluate use of the database and associated networks as a contribution to effective implementation of the Convention • Develop a draft strategy for establishment of a global network of networks to support implementation of the Convention	• Criteria catalogue established • Links to 5 major regional and global networks in place • At least 10 live interactions on the virtual communication platform take place per month by end of first year, increasing annually by 25% • Survey instrument adapted for broader testing • Cost-benefit study available • Draft strategy for a global network of networks done

Annex III. Estimated Costs (US$) Phase 2

This estimated costing includes: (i) the costs that will be incurred by each of the seven Consortium members as indicated below, including costs of sub-contracts with the collaborating organizations to provide thematic, subregional, national, sub-national, NGO/CBO and other inputs; and (ii) costs to cover project coordination, implementation, and holding of planning and synthesis workshops by UNEP.

Budget items	UNEP	ALIC/ UofA	ISRIC	UNSO/ UNDP	DRFN/ SADC	WMO	RIOD - NFP	Collaborating organizations (NFPs in southern Africa)	Total
Preliminary action: contracting and development of survey instruments and evaluation criteria (ref. TOR 3 a,b,c, d,e)	2,000	2,000	2,000	2,000	2,000	2,000	2,000		14,000
Planning workshop for development of survey instruments and evaluation criteria as above (ref. TOR 3 a,b,c,d,e), translations, reports	80,000								80,000
In-depth evaluation of networks/units in southern Africa (ref. TOR 3 f,j,k)					40,000	5,000	20,000		65,000
Maintenance and development of the Web site database including it's global operationalization (ref. TOR 3 g,k and 2 c)		60,000	18,000	5,000	40,000 (regional)		10,000		133,000
Phase 2 Synthesis and Phase 3 strategy workshop (ref. TOR 3 c,h,i,k)	80,000				30,000				110,000
Coordination and reporting	80,000								80,000
Allowance for hardware and software for operationalising the subregional network and decentralized database (ref. TOR 3 k)					8,000 + 20,000			70,000	98,000
Contingency 13% (UNON service costs)	75,000								75,000
Total	317,000	62,000	20,000	7,000	140,000	7,000	32,000	70,000	655,000 Grand total

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Convention to Combat Desertification

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Bonn, 12-14 December 2000
Item 7 of the provisional agenda

EARLY WARNING SYSTEMS

Report of the ad hoc Panel

Note by the secretariat

CONTENTS

		Page
1.	Introduction	3
2.	Data collection, accessibility, and integration	3
	Data collection	4
	Data access	4
	Data integration	5
3.	Evaluation and prediction of drought and desertification, and measures for preparedness, in cooperation with the follow-up to the International Decade for Natural Disaster Reduction	5
	General comments	5
	Assessment of drought	5
	Prediction of drought	6
	Assessment of desertification	7
	Prediction of desertification	7
	Measures for drought preparedness	7
	Recommendations	8
4.	Dissemination of information to end-users on the applications of early warning systems and desertification monitoring and assessment, and strengthening of appropriate response mechanisms, particularly in the national action programmes to combat desertification	8

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Page

A. Dissemination of information 6
Methods and Means 8
Guiding principles 9

B. Strengthening of appropriate response mechanisms within NAPs 9
Implementation of the response measures within NAP . . 10
Concluding recommendations 10

Annexes

I. Participants to the ad hoc Panel Meeting on Early Warning Systems 11

II. Documents submitted to the ad hoc Panel on Early Warning Systems 12

III. Agenda of the ad hoc Panel Meeting on Early Warning Systems . . 14

1. Introduction

1. By decision 14/COP.3, the Conference of the Parties of UNCCD appointed an ad hoc panel of 10 experts "to review and elaborate on the following technical topics emerging from national reports of Parties and regional forums on implementation of the Convention:

(a) Data collection, accessibility, and integration;

(b) Evaluation and prediction of drought and desertification, and measures for preparedness, in cooperation with the follow-up to the International Decade for Natural Disaster Reduction;

(c) Dissemination of information to end-users on the applications of early warning systems and desertification monitoring and assessment, and strengthening of appropriate response mechanisms, particularly in the national action programmes to combat desertification."

2. The ad hoc Panel convened in Bonn, Germany, from 31 May to 3 June 2000. The ad hoc Panel members who attended are listed in annex I. The Panel selected the following officers:

Chair:	Dr. Kazuhiko Takeuchi (Japan)
Vice-Chair:	Mr. Abdellah Ghebalou (Algeria)
Vice-Chair and Secretary:	Dr. Anneke Trux (Germany)
Vice-Secretaries:	Dr. Patricio Aceituno (Chile)
	Dr. Ali Umran Komuscu (Turkey)

3. In accordance with decision 14/COP.3, experts from relevant technical institutions with operational responsibilities in desertification and drought information systems also participated in the meeting (see annex I).

4. The participants reviewed the background documents, including reports provided by Panel members and experts (see annex II).

5. Based on those documents, the participants developed a common understanding of the terms of reference and engaged in a substantive discussion.

6. The discussions responded to article 16 of UNCCD, which states that "The Parties agree, according to their respective capabilities, to integrate and coordinate the collection, analysis and exchange of relevant short-term and long-term data and information to ensure systematic observation of land degradation in affected areas and to understand better and assess the processes and effects of drought and desertification. This would help accomplish, *inter alia*, early warning and advance planning for periods of adverse climatic variations in a form suited for practical applications by users at all levels, including local populations."

7. Recognizing the importance of building on existing operational early warning systems within the framework of National Action Programmes to Combat Desertification (NAP), the participants reviewed and elaborated the three technical topics defined in decision 14/COP.3 and agreed to the conclusions covered in the following sections.

2. Data collection, accessibility and integration

The participants recognize that data collection, access, and integration are the responsibilities of Governments at the national level. National Action Programmes should address these data responsibilities and define clear objectives for data collection, access and integration of programmes as well as the need for better data access.

Data collection

- It is far more important to maintain and strengthen existing observation networks than to expand or create new systems. Hydrological and meteorological networks in many desertification-affected countries, especially in the developing regions are falling into disrepair. *The Panel recommends that Parties provide adequate support to maintain existing observation networks.*

- Early warning systems should capitalize on the techniques and methods developed already by researchers and operational programmes and operationalize them as soon as possible.

- The participants underlined the need for data reliability. Metadata, which fully describes the details of data format, sources and calculation, should accompany every database. Organizations involved in data collection must pay attention to standardization and compatibility in data content and format and compatibility among scales of analyses, from local to subnational, national, subregional, regional, and global levels.

- Where appropriate, the local population should be actively involved in the data collection process and efforts must be made to ensure that useful information is conveyed back to them.

- Given the extend of the drought and desertification problem, data collection should span a range of spatial and temporal scales and should serve long-term planning.

- Some indicators are common to both drought early warning systems and desertification information systems.

Data access

The participants recognized the following constraints:

- Inadequate infrastructure

- High costs in cases when data are treated as commercial property

- Political restrictions, e.g. national security

- Lack of protocols for data exchange between institutions

In order to improve data accessibility, the Panel recommends the following:

- Easy and unlimited public access to databases is a prerequisite for effective early warning systems: However, the issue of data sovereignty must be taken into account in facilitating universal access to the different actors involved

- Define appropriate distribution and pricing policies in order to have the easiest and most cost-effective access to data and information for the different categories of users

- Take advantage of the recent development of technical tools especially in telecommunication in order to facilitate decentralized data management and access

Data integration

- The participants recognize the development in the use of such tools as geographical information systems (GIS) for faster and more efficient integration of data from different sources. Attention should be paid to developing capacities at national, subregional and regional levels to take advantage of such tools and techniques.

- The Panel invites the Parties to encourage donors who are in a position to provide assistance to support such capacity-building activities in developing countries.

- Early warning systems operate through a multidisciplinary approach. Therefore, partnerships between different disciplines that strengthen cooperation and transparency will advance the work of early warning systems.

3. Evaluation and prediction of drought and desertification, and measures for preparedness, in cooperation with the follow-up to the International Decade for Natural Disaster Reduction

For its deliberations, the participants recall the definitions in Article 1 of the Convention of "desertification," "drought," "combating desertification", and "mitigating the effects of drought".

The Panel and the experts also examined early warning systems in the light of the approach adopted by the International Strategy for Disaster Reduction (ISDR). This approach proceeds from hazard protection to risk management through four stages: public awareness, commitment from community leaders and public authorities, implementation of measures to enhance the resilience of communities to disaster, and the mitigation of social and economic losses.

General comments

- Early warning for drought prediction and assessment, and monitoring and assessment for desertification are fundamentally interrelated yet operationally different activities. Currently no operational early warning system exists for desertification.

- In the short-term, early warning systems for drought prediction and assessment provide information for contingency response planning. Desertification monitoring and assessment will provide information in the long-term to improve systems of community-based natural resource management and institutional capacities.

- Desertification monitoring systems should be built in connection with the operational drought early warning systems.

- Early warning systems for drought and desertification monitoring systems must examine the full range of biological, physical, climatic, social and economic factors involved in desertification.

- In the interest of sustainability, operating costs of early warning systems must be taken into account. The profitability of early warning systems is related to their utilization.

Assessment of drought

- Drought is a natural hazard originating from a deficiency of precipitation that results in a water shortage for some activities or some groups. Lack of precipitation occurring over an extended period of time, usually a season or more in length, is often associated with other climatic factors (such as

high temperatures, high winds and low relative humidity) and can aggravate the severity of the event. From a hydrological viewpoint, extended shortage of rainfall forces a corresponding flow variability in dryland rivers, and consequently in runoff and in soil moisture. The latter, of critical importance to crop productivity, is affected not only by the amount and seasonal incidence of rainfall, but also by the ability of soils to absorb and store water and by moisture losses through evapotranspiration.

- For effective assessment of drought, systematic observation, collection, analysis and exchange of meteorological, climatological and hydrological data and information are necessary. National Meteorological and Hydrological Services (NMHSs) are actively involved in these activities and in the development of relevant techniques for the assessment of drought. The Panel emphasized the importance of enhancing national climatological, meteorological and hydrological capabilities for timely assessment of drought and its dissemination of information as enshrined in article 10 of the UNCCD.

- It is important to remember that drought severity is dependent not only on the duration, intensity and geographical extent of precipitation deficiency, but also on the demands made by human activities and vegetation on region's water supplies. Drought assessment efforts must take into account the influence of these factors.

- Drought assessment can use climate, hydrological, physical, biological and socio-economic indicators. These indicators can be used alone or in combination and sometimes two or more indicators can be combined to form derived indices. Meteorologists and climatologists have made considerable progress in drought assessment and have developed a number of indices. There are a number of indices in use for drought assessment and these provide specific information on a range of issues related to drought assessment.

Prediction of drought

The socio-economic upheavals that have occurred, especially in Africa, over the past few decades due to drought, have underlined the urgent need to predict interannual climatic variations for drought, prediction still heavily relies on the monitoring of observed patterns of monthly and seasonal rainfall, streamflows, groundwater levels, snowpack and other parameters. Developing predictive skills for large geographical regions on monthly and seasonal timescales (e.g. physically and statistically based Global Circulation Models (GCMs)), offers promise for increasingly useful forecasts of the onset, severity and duration of drought.

Climate variability brings lower precipitation in some areas and higher precipitation in others. CLIVAR, a research programme on climate variability and prediction for the 21st century, in the framework of the World Climate Research Programme and the advances made in the use of the predictive properties of Sea Surface Temperature (SST) and ocean-atmosphere coupling processes have led to improvements in drought prediction. For example, a strong coherence of climate anomalies in the Asia and Pacific region is associated with El Niño - Southern Oscillation (ENSO) phenomenon; this is the basis for current prediction on seasonal time scales. Practicable, usable seasonal and inter-annual forecasts of precipitation in areas with a strong ENSO signal are becoming more reliable and can be made with longer lead times. Significant advances have been made in the past three years through the organization of climate outlook forums in different regions of the world under the auspices of the Climate Prediction and Information Services (CLIPS) of the World Meteorological Organization (WMO) in issuing climate forecasts. Drought related forecasts were issued during the

1997-1998 El Niño event and were stated in terms of probability of below average, average or above average precipitation. Some meteorological services have developed a drought watch service, utilizing real-time hydrological and meteorological data.

The Panel highlights that augmenting the growing capability to provide seasonal and inter-annual climate forecasts is essential to combat the effects of drought in diverse regions of the world. Data from meteorological satellites are being used for prediction of rainfall and remotely sensed data from geostationary satellites and polar orbiting satellite are being used as input data for seasonal rainfall prediction. Early warning systems currently provide maps of the location of socio-economic groups vulnerable to drought and organizations involved in drought mitigation urgently need this information for quick action.

Assessment of desertification

Assessment of desertification depends on the availability of physical, biological, social and economic information from different sources. The most useful parameters, among others, are climate, land-use and cover change, vegetative productivity, soil productivity, land management practices, demographic factors as well as institutional parameters.

The Overall Assessment of Desertification (OAD) proposed by the UNCCD secretariat will provide information on trends of degradation of natural resources, specifically water, vegetation and soils as well as the main socio-economic and driving factors on a global scale. National, subregional and regional desertification assessments should provide data on a smaller scale.

The Panel concludes that it is essential to concentrate assessment on the elements that can eventually be influenced.

Identification of populations at risk and conducting desertification assessment in the context of sustainable development is crucial to programmes that are beneficial to local communities.

Prediction of desertification

- Desertification is difficult to predict because of the complexity of the interaction of the multiple driving forces and its long-term nature. Therefore the Panel suggests using "monitoring" rather than "prediction" where desertification is concerned.

- At least two types of analysis that currently help assess desertification vulnerability are current vulnerability analyses produced by operational drought early warning systems and global desertification assessments.

- One key end product of desertification monitoring systems will be the spatial identification of populations at risk to promote timely appropriate action.

Measures for drought preparedness

Provision of information for preparedness is an integral part of an early warning system and should be designed to help each population at risk to effectively prepare for risks and hazards.

The information on measures for preparedness must take into account a range of coping strategies of the population at risk as well as their perception of risks and the costs to them, particularly in proportion to the expected benefits.

Public information and education about the risk of drought and desertification also improve the acceptance of the information concerning preparedness by strengthening people's capability to understand and interpret the information on risks.

Long-term adaptation involves the development of community based natural resources management plans, developed and implemented through a participatory approach, and making full use of traditional knowledge.

Recommendations

- Use the proposed UNCCD Overall Assessment of Desertification (OAD) as a baseline for monitoring at the global level.

- Establish National desertification information systems and include country profiles on desertification.

- Operational drought early warning systems should incorporate desertification monitoring into their activities and integrate systems to address both drought and desertification rather than establishing separate systems.

- Establish benchmarks and monitor indicators of desertification over time and strengthen institutional arrangements at all levels in accordance with the methodology developed by the ad hoc panel on benchmarks and indicators and contained in ICCD/COP(3)/CST/3/Add.1, and produce maps of vulnerability to desertification.

- Integrate early warning results with the results of other climate prediction systems such as the Climate Information and Prediction Services (CLIPS) and the Climate Variability Programme (CLIVAR).

- Encourage the further development and application of seasonal climate forecasting and long-range forecasting as tools for early warning systems.

- Establish institutional arrangements that improve coordination at the local, subnational, national, subregional, regional and global levels.

4. Dissemination of information to end-users on the applications of early warning systems and desertification monitoring and assessment, and strengthening of appropriate response mechanisms, particularly in the national action programmes to combat desertification

A. Dissemination of information

Methods and means

- The methods for information dissemination for drought and desertification may differ both between and within countries depending on the user and levels of development. Methods and means include the following:

  - Local satellite receivers located at village level to provide one way video and two way audio communication
  - Digital radio with printing capabilities
  - Internet
  - Workshops, farmers meetings and village meetings
  - Extension programmes
  - Knowledge centres
  - Traditional methods of information dissemination such as cultural events and religious meetings

- The type of information to be disseminated needs to be well defined. It is also important to ensure that the information be conveyed to communities rather than to individuals. The information also needs to be relayed with proposals for action to local communities.

- Vulnerability analysis provides an effective tool to disseminate information contained in early warning systems

  - Vulnerability analysis combines historical series of bio-physical and socio-economic data

  - For desertification carrying capacity analysis can indicate populations at risk

  - Vulnerability mapping assists in priority setting in natural resources management policies in time and space

  - Integration of vulnerability assessments at various spatial and temporal scales can assist in rational distribution of scarce resources.

Guiding principles

- The guiding principles for information dissemination include the following:

  - Use of local languages
  - Set priorities in information and response
  - Adapt scale of information to users
  - Monitor the impact of information
  - Let users define information needs and adapt time, place and means of communication to local use
  - Relate drought warning information to support options for the populations concerned

B. Strengthening of appropriate response mechanisms within NAPs

- NAPs need to identify key decision-making authorities at national and local level for issuing warning and coordinating response.

- The information must be streamlined and the information flow needs to be both vertical and horizontal. It is always important to target high-risk areas that are more prone to desertification. Telecommunication infrastructure also needs to be in place particularly in high-risk areas.

- Response to desertification and drought will be different. It is necessary to look at the response at the three levels listed below. It is important to stress that response mechanisms must be able to meet the needs of the local populations, so as to enable them to use the information effectively.

  - Response mechanisms to drought

    - Short-term response measures have embedded crisis management elements such as water and food and supply

    - Medium- and long-term gradual and broadening mechanisms cited below for desertification also serve as medium- and long-term mechanisms for the mitigation of the effects of drought

    - Utilize existing tools of other early warning systems and test them at local level

- Response mechanisms to desertification

  - short term response measure are mostly technical measures

  - gradual response mechanisms: change of behaviour, production patterns, agricultural systems and consumption patterns at local level

  - Broader measures: overall sustainable development strategies, change of agricultural policies,

  - Utilize tools existing in other early warning systems and test them at local level

- Response mechanisms to both drought and desertification

  - at local, subnational, national, subregional, regional and global levels

  - defining which response has to come from which level

  - non-governmental organizations, with assistance from the Government, have responsibility at the local level

  - Assess land capability criteria: soil, slope, microclimate etc.

Implementation of the response measures within NAP

- Include responses in the NAPs

- Establish multidisciplinary national expert networks for drought early warning systems and monitoring and assessment of desertification

- Promote structured international exchanges on drought early warning systems and the monitoring and assessment of desertification

Concluding recommendations

Concluding, the Panel makes the observation that further work is needed in order to elaborate on pending questions on early warning systems and monitoring and assessment of desertification. Whereas ISDR already is in charge of an ad hoc group for disaster reduction including drought as a natural disaster, there is not such a platform regarding the monitoring and assessment of desertification.

With regard to the pending questions:

- Critical analysis of the performance of early warning and monitoring, and assessment systems;

- Open questions on methods and approaches for the prediction of drought and monitoring desertification;

- Mechanisms to facilitate exchange between scientific and technical institutions

- More detailed measures for drought preparedness

The Panel recommends to the COP to reappoint the present Panel on drought early warning systems and monitoring and assessment of desertification to keep the actual members in order to assure continuity and to ask the Panel to elaborate in depth on the above-mentioned questions.

Annex I

PARTICIPANTS TO THE AD HOC PANEL MEETING ON EARLY WARNING SYSTEMS

MEMBERS OF THE AD HOC PANEL ON EARLY WARNING SYSTEMS

Mr. Patricio Aceituno	Chile
Mr. Abdellah Ghebalou	Algeria
Dr. Ali Umran Komuscu	Turkey
Mr. Zengyuan Li	China
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Experts of relevant institutions

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Dr. Patrick Gonzalez	United States Agency for International Development (USAID), United States of America
Mr. Richard Masundire	Southern African Development Community (SADC), Zimbabwe
Mr. Haruo Miyata	Global Environmental Forum, Japan
Mr. Mauro Pedalino	Ministry of Foreign Affairs, Italy
Dr. M.V.K. Sivakumar	World Meteorological Organization (WMO), Switzerland
Mr. Papa Boubacar Soumare	Centre de Suivi Ecologique (CSE), Senegal

Annex II

DOCUMENTS SUBMITTED TO THE AD HOC PANEL ON EARLY WARNING SYSTEMS

Background documents

1. Decision 14/COP.3 (Early Warning Systems)

2. Document ICCD/COP(3)/CST/6 (Early Warning Systems: existing experiences of Early Warning Systems and specialized institutions operating in this field)

3. Document ICCD/COP(3)/CRP.1 (Early Warning Systems and Desertification: report of the workshop held in Niamey, Niger, from 25 to 28 October 1999)

4. Document ICCD/COP(3)/CRP.2 (Asia-Africa technical workshop on Early Warning Systems: report of the workshop held in Beijing, China, from 22 to 23 July 1999)

5. Early Warning Systems and Desertification. Paper presented to the workshop held in Niamey, Niger, from 25 to 28 October 1999. CeSIA, Florence, Italy.

6. Early Warning Systems in the context of Drought and Desertification. A background working paper for the UNCCD Ad Hoc Panel of Experts' Meeting to be held in May, 2000. Ajai, ISRO, Ahmedabad, India.

Conference room documents

1. Comments on the background paper to be discussed at the UNCCD ad hoc Panel Meeting on Early Warning Systems. Food and Agriculture Organization of the United Nations (FAO), Rome, Italy.

2. Desertification Status and Trends in China. Zengyuan Li, Institute of Forest Resources Information Technique, Chinese Academy of Forestry.

3. Early Warning Systems in the Context of the UNCCD. Haruo Miyata, Committee for Research on Combating Desertification and Land Degradation in Asia and Africa, Global Environmental Forum.

4. Overall Assessment of Desertification (OAD). Background document aiming to support discussions to be held at an expert consultation on the OAD, foreseen to be held end 1999, at the UNCCD secretariat headquarters. FAO, Rome, Italy.

5. Preliminary plan for monitoring the impacts of desertification and climate change. Famine Early Warning System Network (FEWS NET), United States Agency for International Development (USAID). Patrick Gonzalez, USAID, Washington, D.C., 29 May 2000.

6. Report on National and Local Capabilities for Early Warning. Andrew Maskrey, first author, Convener of International Working Group, Member of the IDNDR Scientific and Technical Committee, and General Coordinator of LA RED (Network for Social Studies on Disaster Prevention in Latin America). IDNDR Secretariat, Geneva, Switzerland, October 1997.

7. UNCCD ad hoc Panel on Early Warning Systems. Andrea Di Vecchia, CeSIA-Accademia dei Georgofili, Florence, Italy.

8. Views on early warning systems. Prof. Takashi Kosaki, Kyoto University and Prof. Masato Shinoda, Tokyo Metropolitan University. Excerpts from the Report on the study for promotion of the measures to combat

desertification, FY 1999. Edited and published by the Global Environmental Forum of Japan for the Environment Agency, Japan, March 2000.

Annex III

AGENDA OF THE AD HOC PANEL MEETING ON EARLY WARNING SYSTEMS

Wednesday, 31 May 2000

0930 - 1000	Registration
1000 - 1030	Welcoming statement by Representatives of the Arbeitnehmer-Zentrum Konigswinter (AZK), Dr. Eberhard Pies, Director and Ms. Mary Nisa Punnamparambil, Education & Training Officer
1030 - 1100	Remarks by the Representative of CCD Secretariat
1100 - 1130	Appointment of the Chairman of AHP/EWS, of topic Chairs and *Rapporteurs*
1130 - 1200	Statement by the Chairman of AHP/EWS

Topic 1: Data collection, accessibility and integration

1400 - 1430	Presentation of Topic 1
1430 - 1615	Discussion of Topic 1
1630 - 1730	Discussion of Topic 1

Thursday, 1 June 2000

0900 - 1045	Conclusion of Topic 1

Topic 2: Evaluation and prediction of drought and desertification, and measures for preparedness, in cooperation with the follow-up to the International Decade for Natural Disaster Reduction

1100 - 1130	Presentation of Topic 2
1130 - 1230	Discussion of Topic 2
1430 - 1615	Discussion of Topic 2
1630 - 1730	Conclusion of Topic 2

Friday, 2 June 2000

Topic 3: Dissemination of information to end users on the applications of early warning systems and desertification monitoring and assessment, and strengthening of appropriate response mechanisms, particularly in the National Action Programmes to combat desertification

0900 - 0930	Presentation of Topic 3
0930 - 1045	Discussion of Topic 3
1100 - 1230	Discussion of Topic 3

1430 - 1615	Conclusion of Topic 3
1630 - 1800	Discussion on the conclusions and recommendations of the AHP/EWS

Saturday, 3 June 2000

0930 - 1230	Drafting of report by the *Rapporteurs* of AHP/EWS
1430 - 1830	Adoption of the report
1830 - 1900	Closing Ceremony

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UNITED
NATIONS

Convention to Combat
Desertification

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3 November 2000

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CONFERENCE OF THE PARTIES
Committee on Science and Technology
Fourth session
Bonn, 12-14 December 2000
Item 4 of the provisional agenda

SYNTHESIS OF SCIENTIFIC AND TECHNICAL INFORMATION, PARTICULARLY WITH REGARD TO THE BENCHMARKS AND INDICATORS USED TO MEASURE PROGRESS, AND AN ASSESSMENT THEREOF, CONTAINED IN THE REPORTS RECEIVED FROM COUNTRY PARTIES FOR CONSIDERATION BY THE COMMITTEE ON SCIENCE AND TECHNOLOGY

Note by the secretariat

GE-00-6-4025 (E)

CONTENTS

		Paragraphs	Page
I.	INTRODUCTION	1 - 19	3
	A. Terms of reference	2 - 6	3
	B. Purpose of the present synthesis	7 - 8	3
	C. Common features and trends among Parties	9 - 15	4
	D. Decision of the Conference of the Parties on the recommendation of the Committee on Science and Technology	16 - 19	7
II.	AFRICA: Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof	20 - 24	8
III.	ASIA: Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof	25 - 29	9
IV.	LATIN AMERICA AND THE CARIBBEAN: Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof	30 - 31	10
V.	AFFECTED COUNTRY PARTIES OF THE NORTHERN MEDITERRANEAN AND OTHER AFFECTED COUNTRY PARTIES: Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof	32 - 33	10
VI.	DEVELOPED COUNTRY PARTIES: Review of scientific and technical aspects of the developed country reports	34 - 37	11
VII.	POSSIBLE ISSUES TO BE TAKEN UP BY THE COMMITTEE ON SCIENCE AND TECHNOLOGY	38 - 45	11
	A. Issues relating to the procedures for the communication of information and review of implementation of the Convention	38 - 41	11
	B. Other matters	42 - 45	12

I. INTRODUCTION

1. The present synthesis report contains information on scientific and technical aspects of measures to combat desertification and to mitigate the effects of drought, such as the benchmarks and indicators used to measure progress, and an assessment of those benchmarks and indicators. This scientific and technical information could fall within the terms of reference of the Committee on Science and Technology, as defined in paragraphs 2, 3 and 4 of decision 15/COP.1. Recalling those terms of reference, the present report deals with common features and trends which may be distilled from the reports submitted by country Parties, and identifies lessons to be learnt regarding the procedures for the communication of information and review of implementation of the Convention and possible issues for further exploration.

A. Terms of reference

2. Pursuant to article 26 of the Convention, each Party shall communicate to the Conference of the Parties, through the Permanent Secretariat, reports on the measures which it has taken for the implementation of the Convention and the Conference of the Parties shall determine the timetable for submission and the format of such reports.

3. In accordance with paragraph 13 of decision 11/COP.1, the Conference of the Parties shall initiate review of the reports submitted by the Parties. This review shall alternate, from session to session, between affected African country Parties and affected country Parties of other regions. At its third session, held from 15 to 26 November 1999 in Recife, Brazil, 42 reports were submitted by affected African country Parties.

4. Accordingly, at its fourth session, from 11 to 22 December 2000, to be held in Bonn, Germany, the Conference will examine 125 reports submitted by country Parties and distributed as follows: Africa - 42 reports; Asia - 32 reports; Latin America and the Caribbean - 30 reports; developed countries - 10 reports; northern Mediterranean countries - 6 reports, including one regional report; and other affected country Parties - 5 reports.

5. Decision 11/COP.1 relating to procedures for the communication of information and review of implementation of the Convention defines the format and content of reports on national, joint, subregional and regional action programmes, as well as the format for the reports of developed country Parties and affected developed country Parties not preparing action programmes.

6. Paragraph 18 of decision 11/COP.1 and paragraph 4 of decision 6/COP.3, on the review process for reports, stipulate that reports by Parties, together with advice and information provided by the Committee on Science and Technology and the global mechanism consistent with their respective mandates and such other reports as the Conference of the Parties may call for, shall constitute the basis of the review of implementation by the Conference of the Parties.

B. Purpose of the present synthesis

7. In accordance with the mandate conferred under paragraph 18 of decision 11/COP.1 and paragraph 4 of decision 6/COP.3, the Permanent Secretariat, with a view to facilitating the

review of reports submitted by country Parties to the Convention, has prepared the present synthesis report on the basis of the reports received, and as mentioned in paragraph 3 above.

8. Summaries of the national reports may be found in the documents ICCD/COP(4)/4; ICCD/COP(4)/4/Add.1, sections A, B, C and D; ICCD/COP(4)/4/Add.2, sections A, B, C and D; ICCD/COP(4)/4/Add.3, sections A and B; ICCD/COP(4)/4/Add.4; ICCD/COP(3)/5; and ICCD/COP(3)/5/Add.1-5.

C. Common features and trends among Parties

9. Most of the affected country Parties identify causes of desertification in their national reports. These causes include both physical and human factors. Prominent among the physical factors are such features as climatic variation, wind and water erosion, salinization and others. The human factors include population growth, agricultural expansion and inappropriate agricultural practices, overgrazing, forest fires, extensive deforestation and others.

10. Most of the reports state that the affected country Parties have formulated policies, programmes and plans on desertification control. The United Nations Convention to Combat Desertification works as a catalyst, and is enabling - or has already enabled - many countries to focus or refocus their action programmes on desertification issues. Most of these programmes are still being formulated.

11. Most of the affected country Parties say in their reports that financial, technical, technological and capacity-building needs constitute their priority for the implementation of the Convention.

12. A number of joint projects and programmes are under way, demonstrating different forms of partnership which have been established among affected developing country Parties. Examples include the Asia-Africa meetings, held in 1997 in Beijing and 1998 in Niamey, and the Africa-Latin America and Caribbean meetings, held in Recife in 1998 and Bamako in February 2000, which resulted in South-South partnership agreements. Further examples of partnership may be seen in the thematic programmes which have been formulated or are being developed at the subregional and regional levels. Thus, in Africa seven thematic programmes have been identified; in Asia, six; and in Latin America and the Caribbean, nine.

(i) The seven thematic programmes identified in Africa are the following:

(a) Agroforestry and soil conservation;

(b) Range management and development of feed crops;

(c) Integrated management of international watercourses, lakes and hydrographic basins;

(d) Environmental follow-up, remote sensing, cartography of natural resources and early-warning systems;

(e) New and renewable energy sources, and environmentally friendly technologies;

(f) Sustainable agricultural production systems;

(g) Capacity-building and promotion of an enabling environment in the framework of regional action programmes.

The thematic programmes listed under (a), (b) and (c) above were launched in March 2000;

(ii) The following thematic programmes are either under way or about to be initiated in Asia:

(a) Monitoring and evaluation of desertification, launched in Beijing in July 1999;

(b) Agroforestry and soil conservation in arid, semi-arid and subhumid dry regions, launched in Delhi in March 2000.

Programmes still to be launched cover the following areas:

(c) Range management, including sand dune stabilization;

(d) Water resource management for agricultural needs;

(e) Capacity-building to address the impact of drought and to control desertification;

(f) Assistance for the implementation of integrated local development initiatives;

(iii) The following thematic programmes have been launched in Latin America and the Caribbean:

(a) Benchmarks and indicators project;

(b) Regional Information Network on Desertification and Drought (DESELAC).

The following are still in preparation:

(c) Projects to enhance and validate traditional knowledge and local technologies;

(d) National and regional education measures to combat desertification;

(e) Creation of a system to manage investment in the Convention to Combat Desertification.

A framework for horizontal cooperation to combat desertification and to mitigate the effects of drought will be set in place in due course.

13. In annex IV countries and in the other affected country Parties, a number of scientific and technical activities have been conducted to implement the Convention. These relate, first, to the implementation of monitoring and early warning systems based on remote sensing and measuring networks based on meteorological stations and other stations set up for this purpose and, second, to the strengthening of scientific research at both national and international levels. The national action programmes clearly identify the following priorities: reclamation and rehabilitation of the worst-affected areas; assistance for the settlement of the populations of these areas, the reforestation of vulnerable areas and the protection of forests against fires; management and protection of catchment areas; erosion control; management of water resources and enhancement of farming practices.

14. In their regional action programme, the annex IV countries have identified seven priorities, as follows:

(a) High-risk areas subject to desertification;

(b) Common indicators to assess desertification;

(c) Gathering and analysis of technical and scientific data;

(d) Data and information exchange;

(e) Involvement of civil society at all stages of the decision-making process in regional action programmes;

(f) Traditional knowledge and practices;

(g) Coordination and contacts with subregional and regional initiatives.

The regional action programmes are prepared around these priorities, with the involvement of national institutions in both financial and human-resource terms.

15. Most of the developed countries focus in their reports on technical and scientific cooperation activities in the area of desertification and land degradation, including through satellite observation, early-warning systems and geographic information systems. This technical and scientific cooperation with recipient countries is implemented, in most cases, through regional or subregional scientific institutions, scientific non-governmental organizations and international organizations, including those of the United Nations system, or with their assistance. It is clear from a large number of the reports that indirect support has been provided

for the implementation of the Convention through sustainable and integrated rural development activities, national environmental plans and other measures relating to natural resource management and sustainable development in general, as follows:

(i) Certain reports mention support provided for scientific activities, such as catchment basin management; improvement of water supply systems and irrigation; land rehabilitation and conservation; forest management; grazing; training and education in disadvantaged rural areas; capacity-building for civil society, farmers and women; and general and specific support for rural credit and health;

(ii) A number of developed country reports stress the need to create synergies among the conventions and other organizations dealing with environmental issues, such as the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change, the Ad Hoc Intergovernmental Panel on Forests and the Intergovernmental Forum on Forests. A coordination and cooperation programme should be set in place between the three conventions - on climate change, on biological diversity and desertification - with a view to avoiding overlaps and optimizing their programmes;

(iii) In their reports, the developed country Parties to the Convention reaffirm their full support, in line with the recommendations of the Convention, for the drafting, elaboration and implementation of national action programmes, through a process of participation of all the actors involved, in particular women and local communities, of consultation, partnership agreements and an integrated, bottom-up approach. These reports also indicate that efforts to control desertification should be an integral part of the struggle against poverty, which is a priority of their cooperation policy. The reports also show, however, that the partnership agreements form part of general agreements.

D. Decision of the Conference of the Parties on the recommendation of the Committee on Science and Technology

16. In the context of scientific and technical cooperation under the Convention to Combat Desertification, at its previous sessions the Conference of the Parties has adopted scientific and technical decisions relating to traditional knowledge; to a survey and evaluation of existing networks, institutions, agencies and bodies; and to benchmarks and indicators.

17. With regard to benchmarks and indicators, at its first session the Conference of the Parties invited Governments to initiate testing the indicators identified in document A/AC.241/INF.4, as revised by document ICCD/COP(1)/CST/3/Add.1, and to report on their usefulness and the practicality of using them in their national reports.

18. At its second session, the Conference of the Parties endorsed the methodological framework proposed by the 10-member ad hoc panel which it had appointed at its first session to review the methodology contained in document ICCD/COP(1)/CST/3/Add.1, with a view to

defining impact indicators and determining how the methodology could be carried out and whether it could be recommended for use. The panel was assisted by an informal group comprising international and subregional organizations and individually appointed experts.

19. The Conference of the Parties invited Governments to initiate testing of the impact indicators and the practicality of using those indicators in national reporting. It also encouraged the Parties and the other countries in a position to provide assistance, as well as international organizations, to mobilize technical and financial support for the affected country Parties, and to initiate the testing of impact indicators, particularly at the national level (decision 16/COP.2).

II. AFRICA

Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof

20. Generally speaking, the African countries have practically no information or available data at the national level, let alone benchmarks and indicators for desertification. Many of the national reports submitted to the Conference of the Parties at its third session state that the indicators had been developed in the framework of other environmental initiatives, such as national environmental action plans, state-of-the-environment reports and national conservation strategies. Most countries intend to develop specific indicators for desertification in the framework of their national action programmes.

21. In some cases, indicators have been established in the framework of food security early warning systems. These indicators could in the future provide supplementary information regarding desertification. Currently, however, most countries indicate that the lack of geographical information systems (GIS) and environmental information systems (EIS) available to their desertification focal points prevents them from adopting a systematic approach to development policies. While sectoral data are available, to different degrees, in the various technical ministries and in international organizations, the lack of coordination between these institutions and the shortage of qualified GIS/EIS staff pose further obstacles to the focal points in the preparation of their reports, particularly with regard to impact indicators. Their task is still further complicated by the absence of uniform standards and formats within these institutions.

22. Several reports stress the need for field studies and for pilot sites to be identified to supplement the desertification information and data provided by advanced technological systems, such as remote monitoring. According to some of those who collaborated on the preparation of the reports, there is an urgent need to develop indicators capable of being used at the community level and which are economically viable.

23. None of the reports provide any information regarding the Parties' implementation of decision 22/COP.1, inviting Governments to initiate the testing of the implementation indicators identified in document A/AC.241/INF.4, as revised by document ICCD/COP(1)/CST/3/Add.1

and decision 16/COP.2. In fact, only four countries - Cape Verde, Swaziland, the United Republic of Tanzania and Zambia - use indicators in their national reports to monitor the process of implementation of the Convention. None of the reports indicates why this approach has not been more broadly adopted. There appears to be no correlation between the use of implementation indicators in national reports and the status of the national action programmes.

24. The reports provide no information about any testing of impact indicators by Parties, as requested by the Conference of the Parties at its second session. Several countries identified a number of physical and socio-economic indicators in a list of proposed desertification indicators, currently being developed, which will be used in future activities conducted jointly with the national action programmes. To date, however, none of these indicators has been tested. In their national reports, several countries refer to their participation in pilot projects on indicators conducted by external organizations, including initiatives by the Sahara and Sahel Observatory (OSS), the Permanent Inter-State Committee on Drought Control in the Sahel (CILSS) and the United Nations Commission on Sustainable Development. Be that as it may, none of the countries has yet tested any impact indicators at the national level.

III. ASIA

Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof

25. The national reports submitted by Asian country Parties to the Conference of the Parties at its fourth session feature a number of current initiatives at the regional and national level, undertaken with a view to identifying benchmarks and indicators for desertification. None of these reports, however, has applied any of the implementation indicators identified in document A/AC.241/INF.4 adopted by the Conference of the Parties. Furthermore, the national reports provide no information, obtained with the use and assessment of impact indicators, on the status of implementation of the Convention to Combat Desertification at the national level. This would seem to suggest that none of the countries has initiated testing the use of the indicators, notwithstanding the recommendation by the Conference of the Parties at its first and second sessions.

26. Several countries state that work on indicators is being conducted in the framework of other environmental initiatives and international conventions. Not much specific information is provided, however, on desertification.

27. Although the national focal points have access to the environmental and geographic information systems (EIS/GIS) in use in various national institutions and regional organizations, their capacity to produce impact indicators and to harmonize the existing information systems is very limited. Several countries point to a scarcity of benchmarks on the management over time of desertification. Others note the lack of indicators suitable for use at the community level.

28. Even in those countries where work on indicators is most advanced, reports indicate that their application to desertification monitoring and assessment will not be operational for several more years.

29. China has been designated to host the Asian regional networks on desertification monitoring and assessment (TPN1). It has undertaken to provide training on the desertification monitoring and assessment criteria, which will necessitate external financial support.

IV. LATIN AMERICA AND THE CARIBBEAN

Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof

30. In response to the decision referred to in paragraph 17 above, five countries from the region have jointly undertaken to identify a unified methodology to develop a group of selected biophysical and socio-economic indicators. This experiment will be extended throughout the region under a regional project on the selection of indicators and the development of methodologies to manage and assess desertification at the national level. Other initiatives, including a model indicator for arid lands, are being developed in the region. The indicators that have been identified relate to plant cover, forests, water quality, loss of biological diversity, land degradation, land-tenure systems, migrations and health.

31. While these initiatives are duly noted, it is also pointed out that only 38 per cent of the countries in the region are actively working to develop benchmarks and indicators on land degradation. The other countries in the region have not yet taken any steps in this direction.

V. AFFECTED COUNTRY PARTIES OF THE NORTHERN MEDITERRANEAN AND OTHER AFFECTED COUNTRY PARTIES

Review of affected country reports on implementation of the Convention, including scientific and technical information on benchmarks and indicators used to measure progress and an assessment thereof

32. Many of the focal points have no access either to specific information or databases on desertification, which are indispensable for national action programmes. The databases available in the various national and regional organizations employ different standards and formats and possibilities for coordination between them are therefore limited.

33. Although a number of impact and implementation indicators have been proposed in various national reports, none of them has actually been used to measure the status of implementation of the Convention to Combat Desertification. The reports contain no information to suggest that Parties are testing the indicators, as recommended by the Conference of the Parties at its first and second sessions.

VI. DEVELOPED COUNTRY PARTIES

Review of scientific and technical aspects of the developed country reports

34. Eleven developed countries have submitted reports which, in presentation and content, comply with the provisions of paragraph 10 (c) of decision 11/COP.1.

35. The developed countries have promoted consultative processes and partnership agreements through bilateral and multilateral cooperation and have provided financial assistance for the preparation and implementation of action programmes at all levels. Some have provided financial assistance throughout the Convention's negotiation process, right up to the implementation stage.

36. These contributions have been used to fund programmes or projects implemented under the Convention in the context of partnership agreements with Governments, associations, regional and national organizations, institutions and non-governmental organizations in a number of affected countries in Africa, Asia, and Latin America and the Caribbean.

37. These programmes and projects relate not only to aspects of institutional, political and capacity-building reforms, but also to the management of natural resources, water and soil conservation, agriculture, livestock, forestry and research activities. The developed countries' contributions are used, however, to fund national environmental plans or other general natural resource management and sustainable development plans and are not specifically targeted at desertification.

VII. POSSIBLE ISSUES TO BE TAKEN UP BY THE COMMITTEE ON SCIENCE AND TECHNOLOGY

A. Issues relating to the procedures for the communication of information and review of implementation of the Convention

38. A number of activities undertaken by Parties in the area of science and technology do not appear to have been adequately covered in their reports. The Committee on Science and Technology might wish to consider the procedure for the submission and the content of the reports, as defined in decision 11/COP.1 on the procedures for the communication of information and review of implementation. It might be a good idea for developed country Parties to be able to report in a more sustained manner on their scientific and technical activities.

39. When reviewing reports submitted by Parties, the Committee on Science and Technology, in accordance with its terms of reference, might wish to reflect on ways of utilizing these reports during its consideration of scientific and technical aspects.

40. The Committee on Science and Technology might also wish to reflect on a possible follow-up to any decision which the Conference of the Parties might take on the presentation and content of reports, to ensure that reports provide a better reflection of the scientific and technical activities undertaken by Parties.

41. The Committee on Science and Technology might also wish to consider submitting a recommendation to the Conference of the Parties regarding the implementation of its decisions on benchmarks and indicators. One possible approach might be to identify and to assist, in the different regions, a group of countries entrusted with undertaking the testing of impact indicators.

B. Other matters

42. The Committee on Science and Technology might also take up the issue of the appointment and operation of the ad hoc panels set up by the Conference of the Parties to provide it, through the Committee, with information and advice on specific issues regarding the state of the art in fields of science and technology relevant to combating desertification and mitigating the effects of drought. For this purpose, the Committee on Science and Technology should ensure that the experts constituting the ad hoc panels which it recommends to the Conference of the Parties have the necessary expertise and experience.

43. The Committee on Science and Technology might wish to examine the possibility of integrating such activities as those on traditional knowledge and on benchmarks and indicators in the thematic programmes at the subregional or regional levels and to placing more reliance on the decentralized structures of the thematic networks set up under the Convention annexes.

44. Given the importance of the review of the monitoring of desertification, the Committee on Science and Technology might also wish to ensure complementarity between the Millennium Assessment, the Land Degradation Assesment (LADA) and the environmental country profiles, which would help provide a better overall picture of the status of desertification.

45. Most conventions relating to environment and sustainable development have committees more or less analogous to the Committee on Science and Technology. Bearing in mind the terms of reference of these committees, the Conference of the Parties might wish to reflect on ways of enhancing the operation of the Committee on Science and Technology and its programme of work.